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ABSTRACT

This interdisciplinary economics project helped first and second graders learn how to conserve energy and save money. The project started because of an announcement by the elementary school principal that, if school utility bills could be lowered, the Board of Education would give the school half the money saved. Students were first introduced to basic economic concepts through the use of games, overhead transparencies, role play situations, and other activities. The second part of the project involved teaching the children about energy, energy sources, and energy conservation through the use of booklets, films, filmstrips, and classroom discussions. Students were also involved in many activities (e.g., they put on a play and wrote energy lyrics to a melody). The third part of the project involved students in energy outreach activities. For example, students made signs for every classroom to remind students and teachers of basic energy rules (e.g., turn out lights), made a videotape, sold recycled products at a cluster fair, and for a culminating effort, launched 700 helium balloons carrying the energy message to surrounding communities. Pre- and posttests and oral checks showed that the project was very successful. Included in the appendix are an economics test and the student handouts. (RM)

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ENERGY EFFICIENT ECONOMISTS

by

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1980-81

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ENERGY EFFICIENT ECONOMISTS

TABLE OF CONTENTS

I - NARRATIVE OF PROJECT

1. OVERVIEW OF PROJECT
2. TYPE OF SCHOOL
3. ECONOMIC GOALS AND CONCEPTS
4. ENERGY GOALS AND CONCEPTS
5. ACTIVITIES FOR BASIC ECONOMIC CONCEPTS
6. TEACHING THE ENERGY BASICS
7. SPEAKERS, FIELD TRIPS, AND PROGRAMS
8. ENERGY ACTIVITIES AND AWARDS
9. THE CLUSTER FAIR
10. CULMINATING ACTIVITY
11. CONCLUSIONS AND EVALUATIONS
12. BIBLIOGRAPHY
13. PHOTOGRAPHS

II. - APPENDIX

1. ACTIVITIES FOR BASIC ECONOMIC CONCEPTS
2. TEACHING THE ENERGY BASICS
3. SPEAKERS, FIELD TRIPS, PROGRAMS
4. ENERGY ACTIVITIES AND AWARDS
5. THE CLUSTER FAIR
6. CULMINATING ACTIVITY
7. CONCLUSIONS AND EVALUATIONS
8. BIBLIOGRAPHY

III. - SAMPLES OF CHILDREN'S WORK

TABLE OF CONTENTS

SECTION I

1. OVERVIEW OF PROJECT
2. TYPE OF SCHOOL
3. ECONOMIC GOALS AND CONCEPTS
4. ENERGY GOALS AND CONCEPTS
5. ACTIVITIES FOR BASIC ECONOMIC CONCEPTS
6. TEACHING THE ENERGY BASICS
7. SPEAKERS, FIELD TRIP AND PROGRAMS
8. ENERGY ACTIVITIES AND AWARDS
9. THE CLUSTER FAIR
10. CULMINATING ACTIVITY
11. CONCLUSIONS AND EVALUATIONS
12. BIBLIOGRAPHY
13. PHOTOGRAPHS

OVERVIEW OF THE PROJECT

OUR PROJECT, ENERGY EFFICIENT ECONOMISTS, WAS A STUDY OF THE RELATIONSHIP BETWEEN CONSERVING ENERGY AND SAVING MONEY. ITS PURPOSE WAS TO MAKE THE CHILDREN AWARE OF THE ENERGY PROBLEM AND TO HELP THEM BECOME BETTER CONSUMERS. WE CHOSE TO EMPHASIZE ENERGY IN THIS PROJECT BECAUSE EVERY ASPECT OF IT CAN BE RELATED TO ECONOMICS.

WE WERE ABLE TO INTEGRATE THE BASIC ECONOMIC CONCEPTS OF SCARCITY, WANTS AND NEEDS, GOODS AND SERVICES, PRODUCERS AND CONSUMERS, SUPPLY AND DEMAND, OPPORTUNITY COST, INTER-DEPENDENCE, MONEY, AND MARKET SURVEY THROUGHOUT THE YEAR-LONG PROJECT WITH EVERY ASPECT OF THE CURRICULUM. EXAMPLES OF SOME OF THE ACTIVITIES USED IN EACH SUBJECT AREA ARE:

MATH	- WORKING WITH MONEY, COMPUTING EARNINGS AND SAVINGS, ESTIMATING ENERGY BILLS, ETC.
LANGUAGE ARTS	- LETTER WRITING, DEVELOPING AN ECONOMICS AND ENERGY VOCABULARY, PUTTING ON A PLAY, ETC.
SCIENCE	- LEARNED ABOUT MANY FORMS OF ENERGY AND HOW THEY WORK, DID EXPERIMENTS, RESEARCHED DINOSAURS AS OUR SOURCE OF FOSSIL FUELS, ETC.
ART	- POSTERS FOR EVERY CLASSROOM IN THE SCHOOL, BULLETIN BOARDS, COLLAGES, KITES WITH ENERGY MESSAGES, MADE PROJECTS FROM RECYCLED PRODUCTS, ETC.
MUSIC	- WROTE ENERGY LYRICS TO A MELODY.
CAREERS	- STUDIED JOBS WHICH ARE SERVICES, JOBS RELATED TO THE ENERGY FIELD, AND WERE EXPOSED TO MANY CAREERS THROUGH OUR SPEAKERS AND FIELD TRIP.

THE STUDENTS DISCOVERED THE IMPACT OF ENERGY ON OUR MONETARY SYSTEM. THEY LEARNED WHAT THEY COULD DO NOW TO BECOME ENERGY EFFICIENT ECONOMISTS AND WERE ABLE TO SHARE THIS WITH THE REST OF THE SCHOOL. OUR PROJECT CULMINATED WITH A SCHOOL-WIDE BALLOON DAY IN WHICH 650 STUDENTS SENT UP AN ENERGY MESSAGE.

TYPE OF SCHOOL

MASON IS AN INNER-CITY SCHOOL LOCATED IN DOWNTOWN AKRON, OHIO. THERE ARE APPROXIMATELY 650 CHILDREN ATTENDING THIS SCHOOL. MOST OF THEM ARE FROM LOW-INCOME, SINGLE-PARENT HOMES. THERE IS A REAL NEED FOR THESE FAMILIES TO SAVE MONEY WHEREVER POSSIBLE BECAUSE OF THEIR LIMITED BUDGETS. WE FELT THAT A GOOD PLACE TO START WOULD BE HELPING THEM TO SAVE MONEY ON THEIR ENERGY BILLS--NATURAL GAS, ELECTRICITY, WATER, AND GASOLINE, ETC. IN HELPING THESE FAMILIES TO SAVE MONEY, WE WOULD ALSO BE HELPING OUR NATION TO CONSERVE ENERGY.

THE TWO CLASSES INVOLVED IN THIS PROJECT CONSISTED OF THIRTY FIRST GRADERS AND THIRTY-TWO SECOND GRADERS. NONE OF THEM HAD ANY PREVIOUS ECONOMIC TRAINING AND ONLY A FEW HAD LEARNED SOME THINGS ABOUT ENERGY.

MANY OF THE STUDENTS AND THEIR PARENTS ARE UNFAMILIAR WITH THE SKILLS NECESSARY TO BECOME A CONFIDENT CONSUMER IN OUR WORLD TODAY. THIS MAKES IT OBVIOUS THAT THERE IS A REAL NEED FOR OUR CHILDREN TO LEARN ABOUT BECOMING <u>ENERGY EFFICIENT ECONOMISTS</u> AND TAKE THIS MESSAGE HOME TO THEIR PARENTS.

ECONOMIC GOALS AND CONCEPTS

ECONOMIC GOALS

- PROVIDE EXPERIENCES IN ECONOMIC ACTIVITIES
- TO CREATE AN ATTITUDE OF ECONOMIC AWARENESS WITH EMPHASIS ON SAVING MONEY WHILE CONSERVING ENERGY
- TO GAIN KNOWLEDGE OF BASIC ECONOMIC CONCEPTS
- TO RELATE ECONOMICS TO THEIR EVERYDAY LIVES
- TO ENCOURAGE THE SHARING OF THEIR ECONOMIC EXPERIENCES WITH THEIR FAMILIES
- TO PROVIDE A BASIS FOR LIFELONG CONSUMER SKILLS

ECONOMIC CONCEPTS DEVELOPED

- SCARCITY--UNLIMITED NEEDS AND WANTS AND LIMITED RESOURCES
- OPPORTUNITY COST--THE COST OF ANY DECISION IS THE ALTERNATIVE FORGONE
- COST BENEFIT ANALYSIS--DECISION MAKING AND ANALYZING THE OUTCOME
- WANTS AND NEEDS--WANTS ARE THINGS WE WOULD LIKE TO HAVE AND NEEDS ARE THINGS WE MUST HAVE
- GOODS AND SERVICES--GOODS ARE TANGIBLE THINGS WHICH CAN BE BOUGHT WITH MONEY. SERVICES ARE PERFORMED FOR US BY OTHERS.
- PRODUCERS AND CONSUMERS--PRODUCERS ARE PEOPLE WHO PERFORM JOBS AND EARN MONEY. CONSUMERS USE THINGS THAT COST MONEY.
- MONEY AND BARTER--MEDIUMS OF EXCHANGE FOR GOODS AND SERVICES
- SUPPLY AND DEMAND--SUPPLY IS THE AMOUNT AT WHICH PRODUCERS OFFER THEIR PRODUCT. DEMAND IS WANTING SOMETHING AND BEING ABLE TO PAY FOR IT.
- INTERDEPENDENCE--RELIANCE UPON ONE ANOTHER FOR ECONOMIC NEEDS.

- MARKET SURVEY--A QUESTIONNAIRE IN WHICH THE PUBLIC EXPRESSES THEIR OPINIONS OR TELLS ABOUT THEIR WANTS AND NEEDS

ENERGY GOALS AND CONCEPTS

ENERGY GOALS

- WILL KNOW WHAT ENERGY IS
- WILL KNOW THE KINDS OF ENERGY WE USE EVERY DAY
- WILL KNOW WHERE AND HOW WE GET ENERGY
- WILL LEARN THAT THE ENERGY SOURCES WE HAVE TODAY WILL NOT LAST FOREVER (SCARCITY)
- WILL LEARN THERE ARE OTHER NEW SOURCES OF ENERGY
- WILL LEARN THE IMPORTANCE OF CONSERVING ENERGY
- WILL LEARN HOW TO CONSERVE ENERGY IN SCHOOL AND AT HOME
- WILL KNOW WHY ENERGY PROBLEMS ARE MORE SERIOUS THAN IN THE PAST
- WILL RELATE ENERGY CONSERVATION TO SAVING MONEY

ENERGY CONCEPTS DEVELOPED

- ENERGY SOURCES--OIL, COAL, NATURAL GAS, SUN, FOOD, ELECTRICITY, WIND, GASOLINE, WATER
- FOSSIL FUELS--HOW DINOSAURS CONTRIBUTED TO OUR ENERGY SOURCES
- CONSERVATION--WHAT WE CAN DO TO HELP WITH THE ENERGY PROBLEM

TEACHING BASIC ECONOMIC CONCEPTS

OUR PROJECT STARTED BECAUSE OF AN ANNOUNCEMENT BY OUR SCHOOL PRINCIPAL. SHE INFORMED US THAT IF WE COULD LOWER OUR UTILITY BILLS THIS SCHOOL YEAR, THE BOARD OF EDUCATION WOULD GIVE US HALF OF THE AMOUNT WE SAVED. THEY WOULD ALSO FIGURE IN THE INFLATION RATE FROM LAST YEAR. WE DECIDED THIS WOULD BE A GOOD WAY TO RAISE MONEY FOR OUR SCHOOL AND ALSO TEACH SOME BASIC ECONOMIC CONCEPTS.

WE BEGAN BY TELLING THE CHILDREN THAT THEY WOULD BE TAKING SOME TESTS SO THAT WE COULD TELL HOW MUCH THEY HAD LEARNED AT THE END OF OUR PROJECT. THE ITEMS COVERED ON THE PRETESTS WERE: SCARCITY, OPPORTUNITY COST, GOODS AND SERVICES, MARKET SURVEY, MONEY AND BARTER, SUPPLY AND DEMAND, AND DISTRIBUTION (APPENDIX PP. 1-6). AFTER THESE WERE GRADED, IT WAS EVIDENT THAT THEY HAD NO PREVIOUS ECONOMIC EXPERIENCES.

WE TOLD THE CHILDREN THAT THEY WOULD BE WORKING ON A PROJECT TO EARN MONEY FOR OUR SCHOOL AND IT WOULD BE UP TO US TO SPREAD THE WORD TO EVERYONE ELSE IN THE BUILDING. AT THIS TIME, WE TALKED A LITTLE BIT ABOUT ENERGY AND THE NEED TO CONSERVE IT. THIS WAS A PERFECT TIME TO INTRODUCE THE CONCEPT OF SCARCITY. WE HAD A LENGTHY DISCUSSION ABOUT THIS TERM AND THEN THE CHILDREN MADE PICTURES DEPICTING SCARCITY FOR OUR BULLETIN BOARD (APPENDIX P. 7). THEY SHARED THESE PICTURES WITH THEIR CLASSMATES AND EXPLAINED WHAT THEY HAD DRAWN. WE THEN DISCUSSED THIS IN RELATION TO THE NEVER-ENDING WANTS OF PEOPLE. THEY READILY UNDERSTOOD THAT SCARCITY MEANS NEVER HAVING ENOUGH OF WHAT WE WANT AND NEED.

AS A FOLLOW-UP TO THE LESSONS ON SCARCITY, WE HAD A NUMBER OF GAMES WHICH THE CHILDREN COULD PLAY INDIVIDUALLY OR IN SMALL GROUPS. THESE INCLUDED ENVELOPE GAMES, BOARD GAMES, FOLDER GAMES, AND FLIP BOOKS (APPENDIX P.). WE ALSO USED MANY PICTURES FROM MAGAZINES TO REINFORCE THE CONCEPT (APPENDIX PP. 8-21).

THE NEXT CONCEPT THAT WAS INTRODUCED WAS OPPORTUNITY COST. WE USED OVERHEAD TRANSPARENCIES TO DISCUSS DECISION MAKING AND ITS RESULTS (APPENDIX P. 22). THE CHILDREN DID ACTIVITIES TO REINFORCE THE CONCEPT AND THIS GAVE US A MEANS OF EVALUATING FOR MASTERY (SOME EXAMPLES ARE ON APPENDIX PP. 23-26).

THE CONCEPT OF COST BENEFIT ANALYSIS WAS TAUGHT IN RELATION TO DECISION MAKING. IT WAS SOMEWHAT DIFFICULT FOR THE CHILDREN TO EVALUATE THEIR DECISIONS AT FIRST. THEY SOON CAUGHT ON AND ENJOYED USING SMILING OR FROWNING FACES AS THEIR MEANS OF ANALYZING A DECISION. MOST OF THESE LESSONS WERE DONE ORALLY, BUT WE DID INCLUDE A SAMPLE OF ONE WORK-SHEET WE USED (APPENDIX P. 27).

AGAIN, SOME GAMES WERE DEVELOPED SO THE STUDENTS COULD REINFORCE THEIR NEWLY LEARNED CONCEPTS. THE CHILDREN LOVED THESE GAMES AND COULDN'T WAIT UNTIL "FREE TIME" (APPENDIX PP. 28-33).

THE THIRD ECONOMIC CONCEPT TO BE DEVELOPED WAS WANTS AND NEEDS. AFTER EXPLAINING THAT WANTS ARE THINGS WE WOULD LIKE TO HAVE AND NEEDS ARE THINGS WE MUST HAVE, WE USED SOME OVERHEAD TRANSPARENCIES FOR DISCUSSION (APPENDIX PP. 34-35). ON THESE OVERLAYS, WE LOOKED AT NEEDS, WANTS, AND THEN PEOPLE WHO CAN PROVIDE THESE THINGS FOR US. WE ALSO TALKED ABOUT A VARIETY OF FAMILIES AND HOW THEIR WANTS AND NEEDS ARE DIFFERENT. WE THEN COMPLETED ACTIVITY SHEETS AS A FOLLOW-UP TO OUR DISCUSSION (SEE APPENDIX PP. 36-40).

A FINAL ACTIVITY TO CHECK EACH CHILD'S UNDERSTANDING OF THESE TERMS WAS COLORING WORKSHEETS. PAPERS WERE PASSED OUT WITH PICTURES OF WANTS AND NEEDS. AFTER DISCUSSING THEM, THE STUDENTS COLORED THEM (APPENDIX PP. 41-42). THEN, EACH CHILD MADE HIS OR HER OWN PICTURES OF WANTS AND NEEDS (APPENDIX PP. 43-44).

GOODS AND SERVICES WERE OUR NEXT ECONOMIC TERMS. PICTURES OF WORKERS PERFORMING SERVICES AND PRODUCING GOODS WERE USED TO INTRODUCE THIS LESSON, ALONG WITH AN OVERHEAD

TRANSPARENCY SHOWING THE SAME (APPENDIX P. 45). WE ALSO USED THE FLANNEL BOARD WITH WORKERS WHICH WERE PUT INTO THE TWO CATEGORIES. THEN, A NUMBER OF WORKSHEETS WERE USED SO THAT THE STUDENTS COULD USE THE INFORMATION WHICH HAD JUST BEEN TAUGHT (APPENDIX PP. 46-56). WE SHOWED TWO MOVIES, "JOBS IN THE CITY-SERVICES" AND "THE POLICEMAN".

TWO NEW GAMES WERE ADDED TO OUR GAME TABLE. THE CHILDREN THOROUGHLY ENJOYED THIS FORM OF ACTIVITY TO REINFORCE THEIR ECONOMIC VOCABULARY (APPENDIX PP. 57-60).

SINCE MANY OF THE PAPERS WE DID WERE RELATED TO CAREERS, WE THEN MADE A LIST OF PEOPLE WHO PROVIDE GOODS AND SERVICES (APPENDIX PP. 61-62).

THE CHILDREN WERE THEN GIVEN PICTURES OF A FREE GOOD, AN ECONOMIC GOOD, AND A PRODUCER OF A SERVICE. AFTER A LENGTHY DISCUSSION, THEY COLORED THE PICTURES (APPENDIX PP. 63-65). AS A FINAL CHECK TO BE SURE THE STUDENTS UNDERSTOOD THE CONCEPTS, THEY WERE ASKED TO DRAW THEIR OWN PICTURES OF A GOOD AND A SERVICE BEING PERFORMED (APPENDIX PP. 66-67). AT THIS TIME, ANOTHER MOVIE WAS SHOWN, "WORK AROUND THE WORLD."

ALL OF THE CHILDREN WERE EXCITED ABOUT THE ECONOMICS THEY HAD LEARNED SO FAR AND WERE EAGER TO KNOW MORE. THIS MADE US BOTH FEEL REALLY GOOD ABOUT OUR PROJECT.

WE USED ANOTHER SET OF OVERHEAD TRANSPARENCIES TO INTRODUCE PRODUCERS AND CONSUMERS (APPENDIX PP. 68-69). SINCE ALL OF THE CHILDREN HAVE BEEN A PRODUCER AND A CONSUMER AT ONE TIME OR ANOTHER, THEY WERE ANXIOUS TO SHARE THEIR EXPERIENCES. THE CHILDREN LOVED TELLING ABOUT THINGS THEY HAD USED AS CONSUMERS AND WHAT THEY HAD DONE TO BE PRODUCERS. AFTER DISCUSSING THESE THINGS, THEY WERE ABLE TO SHARE THEIR EXPERIENCES ON PAPER. FIRST, THEY DID A WORKSHEET ON WHICH THEY DREW PICTURES OF THEMSELVES AS CONSUMERS. THEN, ON ANOTHER WORKSHEET, THEY DREW A PICTURE OF THEMSELVES AS A PRODUCER AND TOLD HOW MUCH THEY EARNED AND WHAT THEY DID WITH THEIR SALARY (APPENDIX PP. 70-71). OTHER

WRITTEN ASSIGNMENTS WERE ALSO USED TO TEACH THESE CONCEPTS (APPENDIX PP. 72-75).

AS A FUN ACTIVITY, THE CHILDREN COLORED PICTURES OF A PRODUCER. THEN, THEY MADE THEIR OWN PICTURES OF PRODUCERS AND CONSUMERS (APPENDIX PP. 76-78). AFTER THESE WERE COMPLETED, EACH ONE WAS SHARED WITH THE CLASS. ALL OF THE STUDENTS COULD EXPLAIN THESE CONCEPTS PERFECTLY!

AFTER REVIEWING THE CONCEPTS WE HAD ALREADY LEARNED, WE WENT ON TO MONEY AND BARTER. WE APPROACHED THESE TWO AS MEDIUMS OF EXCHANGE. WE BEGAN BY DISCUSSING HOW PEOPLE TRADED THINGS BEFORE MONEY CAME INTO EXISTENCE. IT WAS EASY FOR THE CHILDREN TO UNDERSTAND BARTER AS SWAPPING ONE THING FOR ANOTHER BECAUSE IT IS SOMETHING THEY DO WITH THEIR FRIENDS ALL THE TIME. WE HAD A "SWAP DAY" AT THE CONCLUSION OF OUR STUDY OF BARTER SO THAT THE STUDENTS COULD ALL EXPERIENCE THIS CONCEPT.

OUR STUDY OF MONEY WAS INTRODUCED WITH A POEM (APPENDIX P. 79). AT THE END OF THIS UNIT, THE CHILDREN WERE ABLE TO IDENTIFY COINS, ADD AND SUBTRACT, USING MONEY, DO MONEY STORY PROBLEMS, AND COMPUTE FIGURES RELATED TO OUR SURVEYS AND ENERGY UNIT. MANY OVERHEAD TRANSPARENCIES WERE USED TO TEACH THESE THINGS (EXAMPLES ON APPENDIX PP. 80-81). WE, ALSO, USED A NUMBER OF WORKSHEETS FROM THEIR MATHBOOKS AND OTHER SOURCES (A FEW OF THESE ARE ON APPENDIX PP. 82-87).

WE ALSO DID MANY ACTIVITIES ON THE FLANNEL BOARD USING COINS AND OBJECTS TO PURCHASE. THE FLANNEL BOARD WAS PLACED WITH THE GAMES BECAUSE THE CHILDREN LOVED USING IT DURING THEIR FREE TIME.

EACH CHILD HAD A SET OF COINS WHICH WE USED TO COMPLETE OUR MATH PAPERS. AT THE END OF THE UNIT, THESE WERE USED ON A PIGGY BANK TO SHOW THEIR WEEKLY EARNINGS AND SAVINGS (APPENDIX PP. 88-89).

OUR DISCUSSION OF ALLOWANCES LED TO THE TOPIC OF FAMILY INCOME. WE TALKED ABOUT WHERE OUR FAMILIES GET THEIR MONEY AND THEN DISCUSSED SOME WORKSHEETS (APPENDIX PP. 90-92).

WE SAW THE MOVIES, "FAMILIES AND JOBS" AND "GOING TO SCHOOL IS YOUR JOB." IT WAS QUITE INTERESTING TO HEAR HOW THE CHILDREN THOUGHT THEIR PARENTS RECEIVED THE MONEY TO SUPPORT THEIR FAMILIES. WE ENDED OUR UNIT ON MONEY AND BARTER WITH A "SWAP DAY" AND A FOLLOW-UP WORKSHEET (APPENDIX P. 93).

NEXT, WE BRIEFLY DISCUSSED THE TERM DISTRIBUTION. WE USED ROLE-PLAYING TO DECIDE WHO GOT THE LAST CHAIR IN "MUSICAL CHAIRS." THEN, WE MADE POSTERS SHOWING THE FOLLOWING: LOTTERY, SHARING, FIRST COME-FIRST SERVED, NEED, PAY, TEACHER DECIDES AND FORCE. AFTER DISCUSSING EACH OF THESE TERMS, WE HAD A LOTTERY, AN AUCTION, AND THE TEACHER DECIDES. THE MAJORITY OF CHILDREN DECIDED THAT THEY LIKED THE LOTTERY BEST BECAUSE EVERYONE HAD A FAIR CHANCE OF WINNING. WE USED THE FILMS, "DIVISION OF LABOR" AND "JOBS IN THE CITY--DISTRIBUTION" AS A FOLLOW-UP.

THE CONCEPT OF INTERDEPENDENCE WAS INTRODUCED BY USING A PICTURE OF THREE PEOPLE WHO WERE DEPENDING ON EACH OTHER TO PERFORM A CIRCUS ACT (APPENDIX P. 94). THEN, WE RELATED THIS TO OUR FAMILIES AND HOW WE ALL DEPEND ON EACH OTHER FOR CERTAIN THINGS. THE CHILDREN ENJOYED DOING THREE WORKSHEETS HAVING TO DO WITH THEMSELVES AND THEIR FAMILIES (APPENDIX PP. 95-97).

SUPPLY AND DEMAND WERE THE FINAL BASIC CONCEPTS TO BE TAUGHT. WE LEFT THIS UNTIL THE END BECAUSE IT WOULD TIE IN NICELY WITH THE NEXT PHASE OF OUR PROJECT: ENERGY.

WE EMPHASIZED THAT SUPPLY IS THE AMOUNT OF GOODS WHICH PRODUCERS OFFER AND DEMAND IS WANTING SOMETHING AND BEING ABLE TO PAY FOR IT. AN OVERHEAD TRANSPARENCY WAS USED TO INTRODUCE THIS CONCEPT (APPENDIX P. 98). WE ALSO DISCUSSED SUPPLY AND DEMAND IN TERMS OF DECISION-MAKING ABOUT WHAT, HOW MUCH, AND FOR WHOM TO PRODUCE (SEE APPENDIX P. 99).

AS A CULMINATING ACTIVITY, WE HAD AN AUCTION USING GOODS WHICH THE CHILDREN COULD BID ON WITH TOKENS THEY HAD EARNED IN THE CLASSROOM. WE HAD ITEMS SUCH AS: BASEBALL

CARDS, FELT TIP PENS, ERASERS, MATCHBOX CARS, BUBBLE GUM, NOTE PADS, AND PENCILS. AFTER THE AUCTION, WE DISCUSSED WHY SOME ITEMS BECAME VERY COSTLY AND OTHERS DID NOT. WE ALSO DECIDED HOW SUPPLY AND DEMAND AFFECTED EACH ITEM.

WE THEN USED SOME DISCUSSION-STARTER QUESTIONS TO DETERMINE WHAT WOULD HAPPEN IF CERTAIN THINGS STARTED TAKING PLACE. WE USED TOPICS THE CHILDREN COULD RELATE TO, SUCH AS: WHAT WOULD HAPPEN IF EVERYONE STOPPED EATING CANDY (APPENDIX P. 100)? AS A FINAL ACTIVITY, WE DID A WORKSHEET ABOUT WHAT WOULD BE IN SUPPLY IN CERTAIN CIRCUMSTANCES (APPENDIX P. 101). THE CHILDREN REALLY ENJOYED THIS WORK-SHEET BECAUSE THEY LIKED USING THEIR IMAGINATIONS IN PRE-TENDING THEY WERE IN DIFFERENT PLACES.

TO SUMMARIZE SOME OF THE CONCEPTS WE HAD BEEN WORKING ON, WE USED A POSTER THAT SHOWS WHY A LOAF OF BREAD CAN BE SO EXPENSIVE WHEN THE GRAIN TO MAKE IT ONLY COSTS A FEW PENNIES (APPENDIX PP. 102-107). THIS WAS AN EXCELLENT VISUAL TO SHOW THE PROCESSES NEEDED TO MAKE A LOAF OF BREAD. IT TIED TOGETHER MANY OF THE THINGS WE HAD JUST DISCUSSED.

AT THE END OF OUR UNIT ON TEACHING BASIC ECONOMIC CONCEPTS, WE HAD THE CHILDREN DO SOME WRITTEN ASSIGNMENTS SO THAT WE COULD EVALUATE THEIR PROGRESS. WE CORRELATED THESE WORKSHEETS WITH READING SKILLS WE WERE WORKING ON (APPENDIX PP. 108-111). WE FOUND THAT ALL OF THE CHILDREN HAD MADE GREAT PROGRESS! THEY COULD DEFINE ANY TERM WHICH WAS GIVEN AND COULD ALSO CITE AN EXAMPLE TO GO ALONG WITH IT. WE FELT THEY WERE READY TO GO ON TO THE ENERGY PHASE OF OUR UNIT.

WE INCLUDED SOME VOCABULARY LISTS WHICH WE FOUND HELPFUL IN TEACHING THIS UNIT ON APPENDIX PP. 112-119.

OUR STUDY OF ENERGY BEGAN WITH A BOOKLET ENTITLED "WISER THE ENERGY MISER" (APPENDIX PP. 120-123). WE FELT THAT THIS WAS A GOOD WAY TO CORRELATE THE BASIC ECONOMIC CONCEPTS WE HAD JUST TAUGHT WITH OUR UNIT ON ENERGY. THIS BOOKLET WAS PUBLISHED BY THE AKRON PUBLIC SCHOOLS AS PART OF

THEIR ENERGY CONSERVATION PROGRAM. WE READ EVERYTHING OVER TOGETHER, THEN THE CHILDREN TOOK THEM HOME SO THEIR PARENTS COULD ANSWER THE QUESTIONS. AS THESE WERE RETURNED TO SCHOOL, THE CHILDREN RECEIVED A "WISER GOLD STAR AWARD" (APPENDIX P. 124). WE ALSO DID A "WISER" CLASSROOM QUESTIONNAIRE TOGETHER TO SEE IF WE WERE CONSERVING ENERGY AT SCHOOL (APPENDIX P. 125). WE DECIDED THAT WE HAD BEEN DOING EVERYTHING CORRECTLY, EXCEPT RAISING THE SHADES ON SUNNY DAYS.

OUR NEXT ACTIVITIES WERE TAKEN FROM A BOOK PUBLISHED BY THE EAST OHIO GAS CO. ENTITLED , OUR ENERGY STORY. IT WAS FILLED WITH SUGGESTIONS AND ACTIVITIES FOR TEACHING ENERGY TO FIRST, SECOND, AND THIRD GRADERS. THE SYMBOL ON THE BOOK IS: $E^{E}E$, WHICH STANDS FOR ENERGY, ECONOMICS, AND ENVIRONMENT. NEEDLESS TO SAY, THIS FIT IN PERFECTLY WITH OUR ECONOMICS PROJECT.

THE FIRST CHAPTER WHICH WE TAUGHT WAS CALLED, "WHAT IS ENERGY?" THE RATIONALE WAS TO INTRODUCE THE STUDENTS TO THE WORD ENERGY AND ITS MEANING. WE EXPLAINED THAT ENERGY MAKES THINGS WORK AND DISCUSSED THINGS THAT GO, MOVE, AND WORK. NEXT, THESE ENERGY SOURCES WERE PRESENTED: OIL, GASOLINE, COAL, WATER, ELECTRICITY, WIND, FOOD, NATURAL GAS, SUN, AND PEOPLE. THE CHILDREN MATCHED THESE ENERGY SOURCES WITH PICTURES (I.E.: CARS--GASOLINE AND OIL). AT THIS TIME, THE FILM "EASY ENERGY" WAS SHOWN. IT WAS AN EXCELLENT MEANS OF DESCRIBING TYPES OF ENERGY.

AS A FUN ACTIVITY, WE INTRODUCED THE CHILDREN TO "CAPTAIN SUNSHINE." WE TOLD THEM THAT HE IS GOING TO TELL US ABOUT THE DIFFERENT KINDS OF ENERGY WE USE AND HOW WE CAN CONSERVE OUR ENERGY SOURCES. THEN, WE PASSED OUT A PICTURE OF "CAPTAIN SUNSHINE" FOR EACH CHILD TO COLOR (APPENDIX P. 126).

NEXT, WE USED A SCRATCH AND SNIFF CARD TO LET THE STUDENTS SMELL THE ODOR OF NATURAL GAS (APPENDIX P. 127). WE INFORMED THEM THAT THE GAS COMPANY ODORIZES THE GAS AS A

SAFETY MEASURE. THEN, WE SHOWED THE FILMSTRIP, "FOR SAFETY SAKE."

TO CHECK ON EACH CHILD'S UNDERSTANDING OF THE ENERGY SOURCES PRESENTED, WE HAD THEM DRAW PICTURES OF: SUN, OIL, NATURAL GAS, WATER, GASOLINE, ELECTRICITY, AND WIND (APPENDIX PP. 128-134).

WE DECIDED TO TAKE A TRIP TO OUR SCHOOL'S FURNACE ROOM SO THAT THE CHILDREN COULD FIND OUT WHAT KIND OF ENERGY IS USED TO KEEP OUR SCHOOL WARM. OUR CUSTODIAN, MR. LOGAN, GAVE US A COMPLETE TOUR AND EXPLAINED ALL OF THE ENERGY SOURCES USED IN OUR SCHOOL. WE DID A WORKSHEET ON WHAT WE HAD SEEN AND LEARNED AND THE CHILDREN MADE THANK YOU PICTURES FOR MR. LOGAN (APPENDIX PP. 135-136).

AS A CONCLUSION TO THE FIRST CHAPTER, "WHAT IS ENERGY?", THE CHILDREN MADE A COLLAGE OF PICTURES CUT OUT OF A MAGAZINE ON THINGS THAT USE ENERGY. WE ALL HAD LOTS OF FUN WITH THIS ACTIVITY.

CHAPTER TWO WAS CALLED, "HOW IS ENERGY TRANSPORTED AND USED?" THE PURPOSE OF THIS SECTION WAS TO EXPLAIN HOW A VARIETY OF ENERGY SOURCES ARE FORMED IN THE EARTH, EXTRACTED, THEN DELIVERED FOR USE TO THEIR HOMES. WE INCLUDED A STUDY OF DINOSAURS AND FOSSIL FUELS.

WE STARTED OUR DINOSAUR STUDY BY ASKING THE CHILDREN HOW COAL, OIL, AND NATURAL GAS WERE FORMED. WE DISCUSSED HOW THE DINOSAURS AND THE PLANTS THAT LIVED LONG AGO DIED AND FELL TO THE GROUND. WE FOUND OUT THAT OVER MILLIONS OF YEARS, THE PLANTS AND ANIMALS OF THIS TIME WERE BURIED AND THAT THEIR FOSSILS WERE EVENTUALLY SQUEEZED INTO OIL, COAL, AND NATURAL GAS. WE REMINDED THE CHILDREN ALL THROUGH OUR ENERGY STUDY HOW LONG AGO OIL, COAL, AND GAS WERE MADE AND STRESSED THAT ONCE IT IS USED--IT IS GONE FOREVER.

WE SET UP A DINOSAUR DIORAMA DURING THE STUDY AND DECIDED TO LEARN MORE ABOUT FIVE DINOSAURS. A DINOSAUR DICTIONARY WAS PASSED OUT AND THE CHILDREN MEMORIZED THE POEMS AND CUT THEM OUT TO MAKE A LITTLE BOOKLET (SEE APPENDIX, P. 137).

WE THEN LEARNED SONGS ABOUT THESE DINOSAURS (SEE APPENDIX P. 138). THE CHILDREN LOVED THESE SONGS AND WE SANG THEM EVERY DAY. THE TUNES WERE CATCHY AND IT WAS A GREAT WAY TO LEARN ABOUT THESE DINOSAURS.

WE PUT A PUZZLE TOGETHER (SEE APPENDIX P. 139) AND ALSO CUT, COLORED, AND FOLDED FOUR DINOSAURS (SEE APPENIDX P. 140).

FIRST, WE HAD A DISCUSSION ON THE THREE MAJOR SOURCES OF ENERGY, OIL, COAL, AND NATURAL GAS. THE CHILDREN LEARNED WHERE THEY ARE STORED, WHY WE USE THEM THE MOST, AND WHY THEY ARE CALLED FOSSIL FUELS. THE MOVIE, "HISTORY OF NATURAL GAS" WAS SHOWN ALONG WITH THIS UNIT. TWO COLOR SHEETS ON THE LAND FORMATION OF FOSSIL FUELS WERE USED TO DESCRIBE WHERE COAL, OIL, AND NATURAL GAS CAN BE FOUND (APPENDIX PP. 146-149).

OUR NEXT ACTIVITY WAS THE "CAPTAIN SUNSHINE" COLORING BOOKS. WE READ THE VERSES TO THE CHILDREN AND DISCUSSED EACH ONE. THEN, THEY COLORED THE PICTURES (APPENDIX P. 150). THE STUDENTS THOROUGHLY ENJOYED COLORING THE PAGES AND ALSO TELLING ABOUT EACH PICTURE IN RELATION TO THEIR OWN FAMILIES.

TWO WORKSHEETS WERE DONE AS A FOLLOW-UP TO THE CHAPTER, "HOW IS ENERGY TRANSPORTED AND USED?" THE FIRST WAS AN EVALUATIVE ONE ON WHICH THE STUDENTS WERE INSTRUCTED TO COLOR THE ENERGY VOCABULARY SPECIFIC COLORS (APPENDIX P. 151). THE SECOND WAS A DISCUSSION-STARTER WORKSHEET WHICH COULD ALSO BE COLORED (APPENDIX P. 152).

THE FINAL CHAPTER FROM <u>OUR ENERGY STORY</u> WAS "HOW CAN WE USE AND CONSERVE ENERGY?" THE PURPOSE OF THIS SECTION WAS TO BUILD STUDENT RECOGNITION OF GOOD CONSERVATION PRACTICES WHICH WILL MAKE THEM MORE ENERGY CONSCIENTIOUS IN THEIR FUTURE YEARS. WE EXPLAINED TO THE CHILDREN THAT OUR RESOURCES ARE LIMITED AND IT'S IMPORTANT TO CONSERVE THEM. WE TALKED ABOUT OTHER SOURCES OF ENERGY: SOLAR HEAT AND NUCLEAR.

AFTER OUR DISCUSSION OF WAYS TO SAVE ENERGY AT HOME AND SCHOOL, THE CHILDREN COLORED A PICTURE OF A THERMOSTAT SET AT 65^{0} TO EMPHASIZE THAT POINT (APPENDIX P. 153). THEY DID ANOTHER WORKSHEET CONCERNING THERMOSTATS THAT WERE TOO HIGH, TOO LOW, AND JUST RIGHT (APPENDIX P. 154). OUR NEXT ACTIVITY WAS A CROSSWORD PUZZLE WHICH WE DID TOGETHER BECAUSE THE CHILDREN COULDN'T READ ALL OF THE WORDS (APPENDIX P. 155).

A CHECKLIST WAS GIVEN TO THE STUDENTS TO TAKE HOME AND HAVE COMPLETED (APPENDIX P. 156). WHEN THEY WERE RETURNED, WE HAD AN INTERESTING DISCUSSION ON WHAT THINGS COULD BE DONE AT HOME TO CONSERVE MORE ENERGY. THESE CHECKLISTS HELPED TO MAKE THE PARENTS MORE AWARE OF ENERGY-SAVING METHODS THEY COULD BE DOING.

OUR FINAL ACTIVITY WAS A POST-TEST. THE STUDENTS WERE GIVEN A WORKSHEET WITH A PICTURE OF A HOUSE. THEY HAD TO MATCH THE WORDS WITH THE CORRECT OBJECTS AND THEN MARK THINGS WITH AN X THAT WERE ENERGY SAVERS. AFTER THESE WERE COMPLETED, WE DISCUSSED EACH ITEM ON THE TEST (APPENDIX P. 157).

TO REINFORCE THE ENERGY CONSERVATION IDEAS WE HAD JUST TALKED ABOUT, THE CHILDREN DID SOME FUN WORKSHEETS WITH "ENERGY ANT." THE FIRST WAS A MAZE ON WHICH THEY HAD TO HELP HIM TURN OFF THE LIGHT (APPENDIX P. 158). THE SECOND ONE WAS A CROSSWORD PUZZLE WHERE THEY USED ENERGY VOCABULARY IN SENTENCES (SEE BACK OF APPENDIX P. 158). ON THE NEXT WORKSHEET, THEY HAD TO CONNECT THE DOTS TO FIND OUT WHAT ENERGY CONCEPT WAS BEING PICTURED (APPENDIX P. 159). THE FINAL "ENERGY ANT" ACTIVITY INVOLVED UNSCRAMBLING ENERGY-SAVING RULES AND TELLING WHAT WAS WRONG IN THE PICTURE (APPENDIX P. 160). THESE WORKSHEETS WERE A MEANS OF EVALUATING THEIR PROGRESS IN UNDERSTANDING THE ENERGY CONCEPTS WE HAD PRESENTED.

TO HELP THE STUDENTS BETTER UNDERSTAND THE VARIOUS SOURCES OF ENERGY, WE HAD THEM MAKE A BOOKLET. THE IDEA

BEHIND THIS BOOKLET WAS THAT ALL SOURCES OF ENERGY (OIL, WOOD, WATER, FOOD) ARE DERIVED FROM THE SUN. WE DID ONE PAGE A DAY FOR SIX DAYS. AFTER READING AND DISCUSSING THE SHORT STORY ON EACH PAGE, THE CHILDREN COLORED THE PICTURE. WHEN THE ENTIRE BOOKLET WAS COMPLETED, WE STAPLED THEM TOGETHER TO MAKE "SUN BOOKS" (APPENDIX PP. 161-166).

TO RELATE ENERGY CONSERVATION TO EVERYDAY THINGS THE CHILDREN COULD BE DOING, WE MADE A LIST OF THINGS WHICH USED ENERGY IN OUR HOMES. NEXT TO EACH ITEM, WE LISTED WAYS THAT THE ENERGY USED COULD BE REDUCED. THEN, WE PASSED OUT A PICTURE OF AN ENERGY HOME. THE CHILDREN MARKED THE THINGS THAT USED ENERGY WITH AN X AND UNDERLINED PLACES WHERE THEY COULD HELP TO SAVE ENERGY (APPENDIX P. 167).

A GAME ENTITLED, "TAKE A TRIP THROUGH ENERGY LAND" WAS OUR NEXT ACTIVITY. EACH CHILD MADE ONE OF THESE GAMES TO REINFORCE ENERGY CONSERVATION IDEAS. THE CHILDREN TOOK THEIR GAMES HOME SO THEY COULD PLAY WITH THEIR FAMILIES. WE ALSO MADE ONE TO BE KEPT IN THE CLASSROOM (APPENDIX PP. 168-170).

A STUDY OF INVENTORS WAS INCLUDED IN OUR UNIT ON ENERGY. WE DISCUSSED HOW HARD THINGS WERE IN THE PAST AND HOW INVENTIONS HAVE MADE OUR LIVES MORE COMFORTABLE. AS A RESULT OF OUR STUDY OF INVENTORS, ONE OF THE CHILDREN MADE AN ELECTRONIC GAME OF MATCHING INVENTORS WITH THEIR INVENTIONS FOR OUR SCHOOL SCIENCE FAIR.

WE DID A FEW WORKSHEETS TO HELP THE CHILDREN VISUALIZE THINGS FROM THE PAST AND THEIR COUNTERPARTS IN THE PRESENT. THE FIRST WAS A PAPER CALLED "THE TIME MACHINE." THE STUDENTS WENT THROUGH MAZES TO MATCH ARTICLES OF THE PAST WITH THOSE IN THE PRESENT (APPENDIX P. 171). THREE OTHER ACTIVITY SHEETS ARE SHOWN ON APPENDIX PP. 172-174.

WE DECIDED THAT OUR STUDY OF ECONOMICS AND ENERGY SHOULD ALSO INCLUDE THE THIRD "E": ECOLOGY. WE STARTED THIS SECTION WITH AN EXCELLENT SPEAKER FROM McDONALDS WHO SHOWED US A MOVIE "MECOLOGY." (THIS WILL BE DISCUSSED FURTHER IN

THE SECTION ON FIELD TRIPS AND SPEAKERS. SHE ALSO GAVE US A BOOK WHICH McDONALDS PUBLISHES CALLED ECOLOGY AND ENERGY. WE FOUND MANY VALUABLE ACTIVITIES WHICH ENHANCED OUR STUDY OF ALL THREE "E's".

ONE OF OUR ACTIVITIES WAS PUTTING TOGETHER A "MINI-SPINNER." THE PURPOSE OF THIS WAS TO PROVIDE A BASIS FOR STUDENT DISCUSSION OF THE SIX ECOLOGY/ENERGY SLOGANS ON THE MINI-SPINNER PANELS. THESE WERE HUNG IN THE ROOM WHEN COMPLETED, AND LATER SENT HOME SO THE CHILDREN COULD HANG THEM IN THEIR ROOMS (APPENDIX PP. 175-177).

WE DID ACTIVITIES ON "THE HISTORY OF TRASH," "A FOOD CHAIN," AND "HOW PAPER IS RECYCLED" (APPENDIX PP. 178-182). WE MADE "AN ENERGY SLIDER" WITH QUESTIONS AND ANSWERS, AND TALKED ABOUT SOME ENERGY SOURCES (APPENDIX PP. 183-185). AN ACTIVITY DESIGNED TO HELP STUDENTS THINK ABOUT THE VARIETY OF ENVIRONMENTAL ACTIVITIES THEY CAN PERSONALLY TAKE PART IN WAS OUR CONCLUDING ACTIVITY ON ECOLOGY. THE CHILDREN COLORED, CUT OUT, AND MADE THEIR OWN BADGES TO WEAR SHOWING WHAT THEY WERE DOING TO BE "ECOLOGY CHAMPIONS" (APPENDIX P. 186).

ONE OF THE STUDENTS WAS SO EXCITED BY OUR STUDY OF ENERGY THAT HE MADE UP HIS OWN BOOK CALLED "ENERGY TALES." WE HAVE INCLUDED IT SO THAT YOU CAN SEE HOW ENTHUSIASTIC THE CHILDREN WERE ABOUT OUR PROJECT (APPENDIX PP. 187-191).

AT THIS TIME, WE DECIDED TO INVOLVE OUR PARENTS TO A GREATER DEGREE IN OUR PROJECT. WE FOUND AN ARTICLE IN THE NEWSPAPER ENTITLED, "WASTING WATER POURS MONEY DOWN THE DRAIN." IT TOLD ABOUT HOW TO CONSERVE ON WATER IN THE BATH-ROOM. ONE SUGGESTION WAS TO PLACE A PLASTIC CONTAINER FILLED WITH WATER IN THE TANK TO DISPLACE SOME WATER. THERE WERE MANY OTHER HELPFUL IDEAS SO WE MADE COPIES OF THE ARTICLE AND SENT THEM HOME TO ALL OF OUR PARENTS (APPENDIX P. 192).

ALSO, WE HAD THE PARENTS FILL OUT AN ENERGY SURVEY (APPENDIX P. 193). WE ASKED THEM QUESTIONS ABOUT HOW THINGS

WERE WHEN THEY WERE CHILDREN. WE TALLIED THE RESULTS AND CAME UP WITH SOME INTERESTING FINDINGS. MANY OF THE FAMILIES HAD GROWN AND PRESERVED THEIR OWN FOOD. MOST OF THEM HAD HOMES HEATED BY GAS AND USED ELECTRIC LIGHTS. TWO USED KEROSENE LAMPS AND TWO HEATED THEIR HOMES WITH WOOD. IT WAS GREAT FOR THE CHILDREN TO SEE HOW THEIR PARENTS LIVED WHEN THEY WERE AROUND THE SAME AGE.

TO WRAP UP OUR STUDY OF ENERGY AND ECOLOGY, THE STUDENTS DID A WORD FIND PAPER AND ONE ON UNSCRAMBLING ENERGY MESSAGES (APPENDIX PP. 194-195). WE VIEWED AND DISCUSSED A MOVIE, "ELECTRICITY AND HOW IT'S USED." THESE FILMSTRIPS WERE ALSO USED, "ECOLOGY-INTERRELATIONSHIPS IN NATURE," "ENERGY AND YOU," "ENERGY! A STUDY OF RESOURCES," AND "EXPLORING MATTER AND ENERGY."

SOME OTHER ACTIVITIES WHICH HAVE BEEN INCLUDED ARE SCIENCE EXPERIMENTS INVOLVING ENERGY. WE TRIED ALL OF THESE AND THEY WERE A GREAT WAY OF LETTING THE CHILDREN HAVE FIRST-HAND EXPERIENCES WITH ENERGY (APPENDIX PP. 196-219). THEY ARE FROM PACKETS ENTITLED <u>SCIENCE ACTIVITIES IN ENERGY</u>, PREPARED BY OAK RIDGE ASSOCIATED UNIVERSITIES.

ON PAGES 220-221 IN THE APPENDIX ARE SOME MATERIALS WE HANDED OUT TO THE CHILDREN AND AN ENERGY SLEUTH ACTIVITY THAT WE DID TOGETHER.

SPEAKERS, FIELD TRIPS, AND PROGRAMS

OUR FIRST SPEAKER WAS MS. SIEGLINDE RICHARDS FROM OHIO EDISON COMPANY (APPENDIX P. 222). SHE SPOKE TO THE CHILDREN ABOUT CONSERVING ENERGY, ESPECIALLY ELECTRICITY. THEN, SHE SPENT THE REMAINDER OF HER VISIT PLAYING AN ENERGY CONCENTRATION GAME ON THE OVERHEAD PROJECTOR WITH THE STUDENTS. THEY ALL HAD AN OPPORTUNITY TO MAKE MATCHES AND THE CHILD WITH THE MOST MATCHES AT THE END RECEIVED AN OHIO EDISON PEN. THE CHILDREN LOVED THIS GAME AND WERE SO ENTHUSIASTIC THAT SHE PLAYED IT WITH THEM AGAIN AND STAYED TWICE AS LONG AS SHE HAD PLANNED TO! IT REINFORCED PERFECTLY ALL OF THE ENERGY CONSERVATION RULES WE HAD BEEN LEARNING. ALSO, SHE GAVE EACH CHILD "THE ELECTRIC DECISION MAKER" TO TAKE HOME TO THEIR PARENTS (APPENDIX P. 223).

AS A HANDWRITING LESSON, THE STUDENTS WROTE THANK YOU LETTERS TO MS. RICHARDS (APPENDIX P. 224). SHE WROTE BACK AND TOLD US SHE HAD THEM HANGING ALL OVER HER OFFICE. SHE ALSO PROMISED TO GET US SOME ENERGY SAVINGS MATERIALS TO PASS OUT TO THE COMMUNITY AT OUR CLUSTER FAIR.

NOT TOO LONG AFTER MS. RICHARDS VISITED OUR CLASSES, HER PICTURE WAS IN OUR LOCAL NEWSPAPER IN AN AD FOR OHIO EDISON (APPENDIX P. 225). THE CHILDREN WERE QUITE IMPRESSED WHEN THEY SAW THIS. THE AD LED TO A LENGTHY DISCUSSION ABOUT HER JOB, JOBS AT THE NEWSPAPERS, AND CAREERS RELATED TO ENERGY.

OUR NEXT SPEAKER, MRS. CONNIE WAYCASTER, WAS A REPRESENTATIVE FROM McDONALDS RESTAURANTS (APPENDIX P. 226). FIRST, SHE SHOWED A MOVIE CALLED "MECOLOGY." IT TOLD ABOUT RECYCLING PRODUCTS TO CLEAN UP THE ENVIRONMENT AND TO HELP SAVE ENERGY. THE MOVIE WAS EXCELLENT AND THE CHILDREN LOVED IT. AS A RESULT OF "MECOLOGY" WE DECIDED TO TRY RECYCLING AND MAKE SOME PRODUCTS WHICH WE COULD SELL TO THE PUBLIC. IN THIS WAY, WE'D BE LEARNING FIRST-HAND ABOUT

ENERGY, ECOLOGY, AND ECONOMICS. WE AGREED THAT WE'D USE THE MONEY WE HAD EARNED TO SPREAD THE WORD ABOUT CONSERVING ENERGY TO AS MANY PEOPLE AS POSSIBLE. MRS. WAYCASTER CONDUCTED A LENGTHY DISCUSSION AND QUESTION AND ANSWER PERIOD AFTER THE MOVIE. AS A REWARD FOR BEING SUCH GOOD LISTENERS, SHE GAVE EACH CHILD A McDONALDS FRENCH FRIES CERTIFICATE. THE STUDENTS WROTE THANK YOU LETTERS AND MADE PICTURES AS FOLLOW-UP ART AND HANDWRITING PROJECTS (APPENDIX P. 227).

OUR THIRD SPEAKER PRESENTED A TERRIFIC PROGRAM ON ENERGY. HE IS ASSOCIATED WITH OAK RIDGE UNIVERSITY AND IS WORKING UNDER A GRANT TO TEACH ENERGY CONCEPTS TO CHILDREN. HIS NAME WAS MR. JON NOEY. HE HAD A GENERATOR ATTACHED TO A BICYCLE WHICH THE CHILDREN RODE TO SEE IF THEY COULD PRODUCE ENOUGH ELECTRICITY TO RUN A TELEVISION SET. HE ALSO PRODUCED STATIC ELECTRICITY AND MADE A CHILD'S HAIR STAND ON END. HE HAD MANY DIFFERENT PROPS TO TEACH HIS ENERGY CONCEPTS. HE WAS A VERY DYNAMIC, ENTHUSIASTIC SPEAKER AND THE CHILDREN ALL LOVED HIM. IT WAS A WONDERFUL EXPERIENCE FOR THEM TO EXPERIENCE ALL OF THE THINGS WE HAD BEEN TALKING ABOUT. (SEE OUR PICTURES OF MR. NOEY IN THE PHOTOGRAPH SECTION.)

WE FOLLOWED UP ONE DYNAMIC SPEAKER WITH ANOTHER, BOB VARLEY FROM EAST OHIO GAS. HE IS THE AUTHOR OF THE BOOK, <u>OUR ENERGY STORY</u>, WHICH WE USED MANY ACTIVITIES FROM. IT WAS GREAT TO HAVE HIM IN PERSON BECAUSE HE REINFORCED EVERYTHING WE HAD TAUGHT FROM HIS BOOK. HE NOT ONLY TALKED TO THE STUDENTS, BUT ALSO INVOLVED THEM IN A VARIETY OF ACTIVITIES.

AS A FOLLOW-UP TO HIS PROGRAM, THE CHILDREN DID A WORKSHEET, MADE PICTURES, AND WROTE THANK YOU LETTERS (APPENDIX PP. 228-229). MR. VARLEY PROMISED TO SEND US SOME ENERGY-SAVING PAMPHLETS FROM EAST OHIO GAS TO HAND OUT ALONG WITH THE THINGS FROM MS. RICHARDS. HE WAS HAPPY TO HEAR THAT WE WERE SPREADING THE WORD ABOUT SAVING ENERGY TO NOT ONLY OUR PARENTS BUT TO THE ENTIRE COMMUNITY.

AS A CULMINATION TO ALL WE HAD LEARNED ABOUT ENERGY AND ECONOMICS, WE WENT ON A FIELD TRIP TO A McDONALDS RESTAURANT (APPENDIX P. 230). AFTER A TOUR OF THE ENTIRE RESTAURANT, WE ALL SAT TOGETHER AND TALKED ABOUT WHAT WE HAD LEARNED. THE CHILDREN FOUND THAT THEY KEEP THEIR THERMOSTAT AT 68^{o} IN THE WINTER AND 75^{o} IN THE SUMMER. THEY TURN OFF ALL EQUIPMENT AND LIGHTS WHEN THEY'RE NOT USING THEM. ALL OF THEIR WORKERS ARE TOLD HOW TO SAVE ENERY. THIS RESTAURANT HAD UTILTY BILLS OF $3,000 IN JANUARY AND $2,000 IN MARCH. IT WAS A GOOD EXPERIENCE FOR THE CHILDREN TO SEE WHAT A BUSINESS IN OUR COMMUNITY IS DOING TO SAVE ENERGY. THE STUDENTS EXPRESSED THE MANY THINGS THEY HAD LEANRED ABOUT ENERGY AND ECONOMICS THROUGH THE QUESTIONS THAT THEY ASKED. THE MANAGER OF McDONALDS WAS QUITE IMPRESSED WITH THEIR KNOWLEDGE.

THEY WERE REWARDED FOR THEIR GOOD BEHAVIOR AND ENTHUSIASM WITH A HAMBURGER, AND COKE, COMPLIMENTS OF McDONALDS. THEY WERE ALSO GIVEN FRENCH FRY CERTIFICATES TO BE USED LATER. NEEDLESS TO SAY, THE CHILDREN LOVED EVERY ASPECT OF THIS TRIP. THEY WROTE THANK YOU LETTERS, MADE ILLUSTRATIONS, AND DID A "McWORD FIND" WHICH McDONALDS HAD GIVEN US (APPENDIX PP. 231-232).

ENERGY ACTIVITIES AND AWARDS

OUR ACTIVITIES STARTED OUT WITH A CAMPAIGN TO LET THE ENTIRE SCHOOL KNOW THAT WE COULD EARN MONEY BY CONSERVING ENERGY. WE MADE POSTERS TO HANG THROUGHOUT THE BUILDING. THEY HAD AN ENERGY MESSAGE ALONG WITH THE AMOUNTS WE HAVE SPENT FOR GAS AND ELECTRICITY DURING THE PAST TWO YEARS. WE PUT QUESTION MARKS FOR 1981 (APPENDIX P. 233). BOTH STUDENTS AND TEACHERS COMMENTED ON OUR POSTERS AND COULDN'T BELIEVE HOW MUCH OUR SCHOOL HAD SPENT ON UTILITES.

THE PRINCIPAL, MISS ORMEROID, MADE ANNOUNCEMENTS TELLING THE STUDENTS WHY THE POSTERS WERE UP--THAT WE COULD EARN MONEY FOR OUR SCHOOL IF WE COULD CUT DOWN ON THESE BILLS. THE BOARD OF EDUCATION AGREED TO GIVE US HALF OF WHAT WE COULD SAVE AFTER THE INFLATION RATE HAD BEEN FIGURED IN.

THE NEXT ACTIVITY WE DID WAS TO MAKE SIGNS FOR EVERY CLASSROOM TO REMIND STUDENTS AND TEACHERS OF FOUR BASIC ENERGY RULES: TURN OUT LIGHTS, KEEP DOORS CLOSED, KEEP SHADES DOWN, AND DRESS WARMLY. OUR STUDENTS COLORED THESE AND THEN DELIVERED THEM. THESE REMINDERS WERE A HUGE SUCCESS. EVERYWHERE WE WENT WE SAW THEM: IN THE LIBRARY, THE GYM, THE OFFICE, EVERY PLACE IMAGINABLE (APPENDIX PP. 234-237).

WE THOUGHT OF ANOTHER METHOD OF REMINDING OUR FELLOW STUDENTS ABOUT ENERGY CONSERVATION--ENERGY KITES WITH MESSAGES ON THE TAILS. THESE TURNED OUT TO BE VERY BRIGHT AND COLORFUL. WE HUNG THEM IN THE HALL SO THAT EVERYONE COULD SEE THEM. WE ALSO PUT SOME IN OUR OWN ROOMS. AFTER THEY HAD BEEN UP FOR A WHILE, THE CHILDREN TOOK THEM HOME AS REMINDERS TO THEIR FAMILIES (APPENDIX P. 238).

WE HAD A "SWEATER DAY" CONTEST BETWEEN OUR TWO ROOMS TO SEE WHO WOULD WEAR THE MOST SWEATERS. (SEE OUR PICTURES IN THE PHOTOGRAPH SECTION.)

WE INCORPORATED AN ART ACTIVITY FOR GEORGE WASHINGTON'S BIRTHDAY WITH OUR PROJECT. THE CHILDREN MADE THREE-CORNERED HATS WITH AN ENERGY SLOGAN ON EACH SIDE. THE MESSAGE WAS: DO YOUR PART--HELP AMERICA--SAVE ENERGY. THE CHILDREN LOVED THESE AND WANTED TO WEAR THEM ALL OF THE TIME (APPENDIX P. 239).

OUR NEXT ACTIVITY GAVE THE CHILDREN A CHANCE TO WEAR THEIR ENERGY HATS. EACH CHILD RECEIVED A CARDBOARD TRAY WITH THEIR LUNCH, SO WE DECIDED TO PUT AN ENERGY POSTER WITH A POEM INTO EACH TRAY. THE PICTURE WAS OF CAPTAIN KILOWATT AND THE PEOM SAID:

KIDS, TAKE THIS PLEDGE WITH ME:
PROMISE TO HELP SAVE ENERGY!
TURN OFF THE LIGHT,
TURN DOWN THE HEAT!
AND AS ENERGY SAVERS
WE CAN'T BE BEAT!

THIS WAS TAKEN FROM THE AUGUST 1980 ISSUE IN INSTRUCTOR MAGAZINE.

THE CHILDREN COLORED ENOUGH OF THESE FOR EVERYONE IN THE SCHOOL--650! IT WAS A BIG JOB, BUT WELL WORTH IT. THE PRINCIPAL TOLD THEM THEY WOULD BE GETTING A MESSAGE IN THEIR LUNCH TRAYS AND THEY SHOULD TAKE IT HOME. HOPEFULLY, IT REACHED MANY FAMILIES (APPENDIX P. 240).

THE STUDENTS FROM OUR CLASSES WORE THEIR ENERGY HATS AND PASSED OUT THE TRAYS AT LUNCH TIME. ALSO, POSTERS WERE GIVEN TO THOSE STUDENTS WHO BROUGHT A LUNCH OR WENT HOME THAT DAY SO THAT EVERYONE GOT ONE. WE ALL ENJOYED THIS ACTIVITY A GREAT DEAL. THERE ARE SOME GOOD PICTURES OF THIS PROJECT IN THE PHOTOGRAPHS SECTION.

AFTER COMPLETING OUR SPECIAL ACTIVITIES, WE STARTED WORKING ON PROJECTS FOR ENERGY AWARDS. THESE AWARDS WERE BEING SPONSORED BY THE EAST OHIO GAS COMPANY. WE WERE GIVEN GUIDELINES AND SUGGESTIONS FOR MANY POSSIBLE PROJECTS (APPENDIX PP. 241-249). THE OBJECTIVES STATED BY EAST OHIO

WERE: (1) TO LEARN ABOUT THE TOTAL ENERGY STORY AND THE IMPORTANT ROLE OF NATURAL GAS: HOW ENERGY AFFECTS OUR INDIVIDUAL LIFESTYLES, OUR JOBS, OUR ECONOMY, AND (2) TO LEARN ENERGY CONSERVATION TECHNIQUES, PUT THEM INTO PRACTICE AND MEASURE THE RESULTS.

OUR FIRST PROJECT WAS MAKING ENERGY CONSERVATION POSTERS (APPENDIX P. 250). THE STUDENTS INCORPORATED MANY OF THEIR NEW CONCEPTS INTO THESE POSTERS. A FIRST AND SECOND PLACE WINNER WAS CHOSEN FROM EACH CLASSROOM. THE FIRST PLACE WINNER RECEIVED A DARLING EAST OHIO GAS T-SHIRT WITH A RAINBOW ON IT. THE SECOND PLACE WINNER RECEIVED A NICE FRISBEE. THESE WINNERS ALSO RECEIVED FIRST AND SECOND PLACE RIBBONS. THE REST OF THE CLASS RECEIVED HONORABLE MENTION RIBBONS. IT WAS A NICE EXPERIENCE FOR ALL OF THE CHILDREN TO ENTER A CONTEST AND ALL OF THEM END UP WITH SOME SORT OF PRIZE.

OUR BIGGEST UNDERTAKING THROUGHOUT THIS ENTIRE PROJECT WAS A VIDEOTAPE THAT WE ALSO MADE FOR THE ENERGY AWARDS. WHAT A CHALLENGE IT WAS! WE WROTE THE SCRIPT, USING SOME OF THE CHILDREN'S IDEAS. IT TOOK THREE WEEKS OF HARD WORK ON EVERYBODY'S PART TO COMPLETE THIS PROJECT. OUR VIDEOTAPE WAS A GREAT LEARNING EXPERIENCE FOR THE CHILDREN AS THEY FOUND OUT WHY IT IS SO NECESSARY TO CONSERVE ENERGY.

AFTER WRITING THE SCRIPT, WE HAD TRY-OUTS FOR THE MAJOR PARTS. OUR MAIN CHARACTERS WERE WALDA KLONDIKE (A NEWS-CASTER), CAPTAIN ENERGY, AND FOUR BROTHERS AND SISTERS. THE CHILDREN MADE ALMOST ALL OF THE PROPS FOR US. A LITTLE VIETNAMESE GIRL DID ALL OF OUR ARTWORK (SAMPLES ARE ON APPENDIX P. 251). CAPTAIN ENERGY TOOK THE CHILDREN ON A TRIP INTO THE PAST TO SEE HOW HARD PEOPLE HAD IT THEN. NEXT, THEY TOOK A TRIP INTO THE FUTURE TO SEE WHAT MIGHT HAPPEN IF WE RUN OUT OF ENERGY SOURCES. THE WASTEFUL CHILDREN THEN VOWED TO BECOME ENERGY SAVERS. WE HAVE INCLUDED A SCRIPT OF OUR PLAY. IT IS NOT COMPLETE BECAUSE MANY

CHANGES WERE MADE ONCE THE FILMING STARTED (APPENDIX P. 252). EVERY CHILD WHO WANTED TO BE IN THE PLAY WAS GIVEN A PART.

WE HAVE SENT OUR VIDEOTAPE ALONG WITH THIS PAPER SO THAT IT CAN BE VIEWED AND ENJOYED. WE WERE QUITE PLEASED WITH THE RESULTS AND USED IT AS A TEACHING DEVICE FOR THE OTHER CHILDREN IN THE SCHOOL. IT RECEIVED AN HONORABLE MENTION IN THE CONTEST AND EACH CHILD RECEIVED A PEN FROM THE EAST OHIO GAS CO. (APPENDIX P. 253).

WE HAD A SPECIAL SHOWING FOR THE PARENTS AND HAD A FANTASTIC RESPONSE FROM THEM (APPENDIX P. 254). WE ALSO SHOWED IT AT THE CLUSTER FAIR FOR THE PARENTS WHO WEREN'T ABLE TO ATTEND OUR PREMIER SHOWING.

THE CLUSTER FAIR

AS WAS MENTIONED EARLIER, WE DECIDED THAT A GOOD WAY TO CORRELATE OUR ECONOMICS AND ENERGY CONCEPTS WAS TO SELL RECYCLED PRODUCTS TO EARN MONEY. THE PERFECT PLACE TO DO THIS WAS AT THE CLUSTER FAIR WHICH WAS HELD AT A NEARBY HIGH SCHOOL (APPENDIX PP. 255-256). WE MADE PIN CUSHIONS FROM BABY FOOD JARS AND MATERIAL SCRAPS, VASES FROM SMALL BOTTLES AND AN ENERGY-SAVING RECIPE BOOK FROM WALLPAPER SAMPLES. WE ALSO HANDED OUT ABOUT 25 DIFFERENT PAMPHLETS FROM EAST OHIO GAS CO. AND OHIO EDISON (SOME SAMPLES ON ON APPENDIX PP. 257-258). WE HAD A CONTINUOUS SHOWING OF OUR VIDEOTAPE TO MAKE THE PUBLIC MORE AWARE OF THE NEED TO CONSERVE ENERGY. SOME OF OUR CHILDREN HELPED SELL THE PRODUCTS AND DISTRIBUTE THE PAMPHLETS AT OUR TABLE.

WE WERE QUITE SUCCESSFUL IN SELLING MOST OF OUR RECYCLED PROJECTS. WE NOW HAD EARNED ENOUGH MONEY TO COMPLETE OUR GOAL OF SPREADING THE WORD TO CONSERVE ENERGY.

CULMINATING ACTIVITY

WE HAD ALL DECIDED THAT THE BEST WAY TO SPREAD THE ENERGY MESSAGE WAS BY SENDING UP A HELIUM-FILLED BALLOON WITH A MESSAGE ATTACHED. WE HAD EARNED CLOSE TO $50.00 SELLING OUR RECYCLED PRODUCTS. THE HELIUM COST US $40 SO WE HAD ENOUGH LEFT TO PRUCHASE BALLOONS AND STRING.

WE SENT A NOTE HOME ASKING THE PARENTS TO HELP US FILL THE BALLOONS (APPENDIX P. 259). WE HAD TEN MOTHERS AND FATHERS WHO AGREED TO HELP. THEY FILLED ABOUT 700 BALLOONS IN JUST A FEW HOURS. THEY ALSO ATTACHED AN ENERGY MESSAGE TO THE STRING. IT HAD OUR SLOGAN THAT WE HAD USED THROUGHTOUT THE PROJECT: "ENERGY SAVERS UNITE--HELP AMERICA WIN THIS FIGHT." IT ALSO HAD INFORMATION ABOUT HOW TO REACH OUR SCHOOL IF A BALLOON WAS FOUND.

BALLOON DAY WAS HELD THE WEEK BEFORE SCHOOL WAS OUT. ALL OF THE CHILDREN KNEW THIS WAS A BIG DAY FOR OUR SCHOOL AND THEY WERE EXCITED ALL DAY LONG.

IN THE AFTERNOON, THE PRINCIPAL MADE AN ANNOUNCEMENT THAT ALL OF THE BALLOONS WERE READY. EACH CHILD WAS HANDED A BALLOON AS HIS OR HER CLASS CAME ONTO THE PLAYGROUND. WHEN ALL WERE READY, MISS ORMEROID TALKED FOR A SHORT TIME ABOUT THE MESSAGE AND WHY WE HAD CHOSEN THIS AS OUR CULMINATING ACTIVITY. WHEN SHE GAVE THE SIGNAL, ALL 700 BALLOONS WERE RELEASED. IT WAS AN OVERWHELMING EXPERIENCE TO SEE ALL OF THE BALLOONS START FLOATING TOWARD THE SKY. THE ENTIRE SHCOOL CLAPPED AND CHEERED AS THE BALLOONS FLOATED AWAY.

NOW, WE HAD TO WAIT AND SEE IF ANYONE FOUND OUR MESSAGES. THE SECRETARY RECEIVED MANY CALLS THAT AFTERNOON FROM PEOPLE IN THE NEIGHBORHOOD AND SURROUNDING AREAS. OUR HARD WORK HAD PAID OFF--PEOPLE WERE GETTING OUR ENERGY MESSAGE!

THE BEST NEWS CAME THE NEXT DAY WHEN A WOMAN CALLED FROM BUTLER, PENNSYLVANIA, TO TELL US SHE HAD FOUND ONE OF

OUR BALLOONS. WE DISCOVERED THIS WAS OVER 200 MILES AWAY AND COULD HARDLY BELIEVE THAT A BALLOON AND ITS MESSAGE HAD TRAVELED THAT FAR. A FEW DAYS LATER, WE RECEIVED A NOTE FROM ANOTHER MAN IN BUTLER, PA. WHO HAD ALSO FOUND A BALLOON. THE CHILDREN WERE ECSTATIC TO THINK THAT OUR ENERGY MESSAGE HAD REACHED PEOPLE SO FAR AWAY (APPENDIX P. 260).

CONCLUSIONS AND EVALUATIONS

AT THE END OF THE PROJECT, THE STUDENTS WERE GIVEN MANY POST TESTS TO EVALUATE THEIR KNOWLEDGE OF THE CONCEPTS. THE FIRST ONE GIVEN, HAD BEEN USED AS A PRETEST. THIS TIME, THEY HAD NO TROUBLE AT ALL ANSWERING THE QUESTIONS. THEY COULDN'T BELIEVE THEY HAD THOUGHT THIS TEST WAS DIFFICULT AT THE BEGINNING OF THE YEAR (APPENDIX PP. 261-263).

WE, THEN, GAVE SOME ADDITIONAL TESTS ON BOTH ECONOMICS AND ENERGY. THEY CONSISTED OF FILLING IN THE BLANKS, MATCHING PICTURES WITH WORDS, TRUE/FALSE QUESTIONS. AND DEFINING TERMS (APPENDIX PP. 264-268). IT WAS A REWARDING EXPERIENCE TO GRADE THESE TESTS. EVERY CHILD HAD MADE SOME DEGREE OF PROGRESS AND 90% HAD MASTERED ALMOST EVERYTHING THAT WAS TAUGHT.

BESIDES THE WRITTEN TESTS, THERE WERE MANY ORAL CHECKS GIVEN AT THE END OF THE PROJECT. THESE QUESTIONS WERE NOT ONLY GIVEN BY THE TEACHER, BUT ALSO THE PRINCIPAL, CURRICULUM SPECIALISTS AND THE DIRECTOR OF THE ECONOMICS DEPARTMENT. THE CHILDREN ANSWERED ALL QUESTIONS WITH FLYING COLORS. EVERYONE WAS AMAZED AT WHAT FIRST AND SECOND GRADERS COULD LEARN. SIX AND SEVEN YEAR OLDS WERE EXPLAINING TERMS WHICH MANY ADULTS DIDN'T EVEN KNOW.

WE ARE ESPECIALLY PROUD OF SOME LETTERS WE RECEIVED FROM OUR CURRICULUM SPECIALIST, PRINCIPAL, AND PARENTS

(SEE APPENDIX PP. 269-270). THEY WERE EACH IMPRESSED WITH THE EXPERTISE OUR CHILDREN HAD GAINED. MANY PARENTS EXPRESSED THEIR THANK YOU'SORALLY. THEIR CHILDREN NOT ONLY LEARNED, BUT THEY LEARNED A GREAT DEAL, TOO.

AS WE ARE LOOKING BACK ON THE PROJECT, WE HAVE DECIDED THAT EVERYTHING WE DID WAS OF GREAT BENEFIT TO THE STUDENTS. ALL OF OUR ACTIVITIES WERE HARD WORK, BUT REWARDING. THE ONE THING THAT WE MAY NOT DO AGAIN IS MAKE A VIDEOTAPE. WE PUT IN MANY LONG, HARD HOURS AND FEEL THAT ONCE IS ENOUGH FOR THAT EXPERIENCE. OUR TAPE TURNED OUT SO BEAUTIFULLY, THOUGH, THAT WE MAY CHANGE OUR MINDS.

WE DID SO MANY THINGS THROUGHOUT THE YEAR THAT IT WAS IMPOSSIBLE TO LIST ALL OF THEM. WE HOPE THAT WE REMEMBERED ALL OF THE MAIN ACTIVITIES THAT TOOK PLACE.

AT THE END OF THIS PROJECT, IT IS EVEN MORE OBVIOUS TO US THAT WE CHOSE AN EXCELLENT TOPIC. IT WAS SO NATURAL TO RELATE OUR DISCUSSIONS OF ENERGY WITH SCARCITY, SUPPLY AND DEMAND, DISTRIBUTION, MARKET SURVEY, INTERDEPENDENCE, AND ALL OF THE OTHER ECONOMIC CONCEPTS WE TAUGHT. THESE TWO TERMS: ECONOMICS AND ENERGY GO HAND-IN-HAND.

WE WERE SORRY TO SEE THE END OF THE SCHOOL YEAR BECAUSE OUR PROJECT HAD TO DRAW TO A CLOSE. WE ACCOMPLISHED OUR GOALS AND LEARNED MANY THINGS ALONG WITH THE CHILDREN. WE PUT IN MANY LONG HOURS AND LOTS OF HARD WORK, BUT IT WAS WELL WORTH IT. OUR ONLY HOPE IS THAT THE CHILDREN INVOLVED IN THIS PROJECT REMEMBER IT ALWAYS AND HAVE BECOME BETTER CONSUMERS BECAUSE OF IT.

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THE SKELETON BOOK--MADELEINE LIVAUDAIS

FILMS

FAMILIES & JOBS
GOING TO SCHOOL IS YOUR JOB
ELECTRICITY AND HOW IT'S USED
EASY ENERGY
JOBS IN THE CITY-SERVICES
FOOD FOR THE CITY--PRODUCE
DIVISION OF LABOR
WORK AROUND THE WORLD
JOBS IN THE CITY--WOMEN
MECOLOGY
PEOPLE WHO WORK IN STORES
THE POLICEMAN
JOBS IN THE CITY--DISTRIBUTION
HISTORY OF NATURAL GAS

FILMSTRIPS

FOR SAFETY SAKE--AGA
ECOLOGY--INTERRELATIONSHIPS IN NATURE--SVE
ENERGY & YOU--SVE
ENERGY! A STUDY OF RESOURCES--SVE
EXPLORING MATTER & ENERGY--SVE
ALBUM OF DINOSAURS--RAND McNALLY & CO.

TABLE OF CONTENTS

SECTION II

1. ACTIVITIES FOR BASIC ECONOMICS CONCEPTS
2. TEACHING THE ENERGY BASICS
3. SPEAKERS, FIELD TRIPS, PROGRAMS
4. ENERGY ACTIVITIES AND AWARDS
5. THE CLUSTER FAIR
6. CULMINATING ACTIVITY
7. CONCLUSION AND EVALUATION
8. BIBLIOGRAPHY

Name _____ Date _____

Economics Test

1. Color the pictures that show scarcity on the ditto.

2. Which three problems do all societies (countries) have to solve because of scarcity?

   a) what to produce
   b) what to save
   c) How much to play
   d) How to produce
   e) For whom to produce
   f) Where to save

3. During play period you were given a choice to play on the bars or paint. What is the opportunity cost of choosing to play on the bars?

   a) about 10 cents
   b) nothing
   c) not being able to paint

4. Put a G next to the people who make goods and a S next to the people who usually provide services.

   a) the bank clerk
   b) the dentist
   c) toy manufacturer
   d) waitress

5. If you choose to play kickball instead of swinging, what is your opportunity cost? _____
   Was it a good choice?

6. Does a fireman produce a good or a service?

   a) good
   b) service

7. What does a baker produce? _____

   a) good
   b) service

8. How does a baker know if he should make chocolate chip cookies or gingerbread cookies?

   a) lottery
   b) guess
   c) market survey

9. Which of these is a way that people get money to use?

a) gifts
b) printing their own
c) earning
d) borrowing

10. Another way to get something you want, besides using money, is to _____.

a) steal
b) barter
c) ask for it

11. When you exchange something, you must find someone who is willing to _____.

a) sell
b) borrow
c) trade

12. Demand is _____.

a) wanting something
b) wanting something an being able to pay for it
c) needing something

13. The amount at which producers offer their product is called _____.

a) supply
b) desire
c) demand

14. When you go and find out whether people want your product and what they are willing to pay, this is called _____.

a) a market survey
b) a field trip
c) a scarcity game

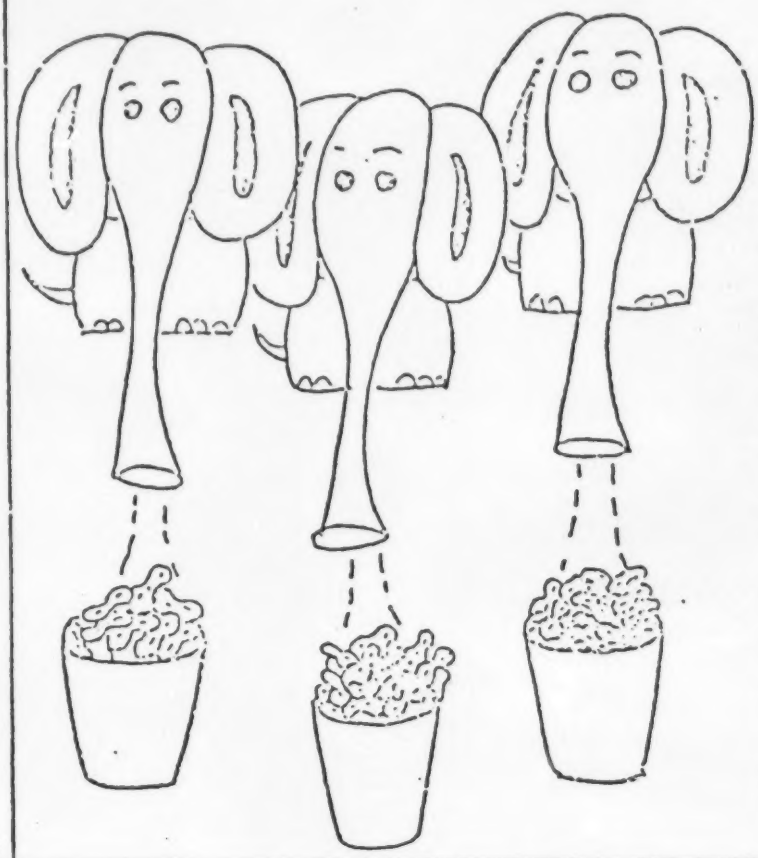
15. What makes money valuable (worth something)?

a) paper prices have gone up
b) everybody will accept it when you want to buy something
c) it is almost always green

16. If a store has a special this week, how do they distribute it?

a) person who has the most money
b) person who needs it the most
c) person who gets there first

Color the pictures that show scarcity.

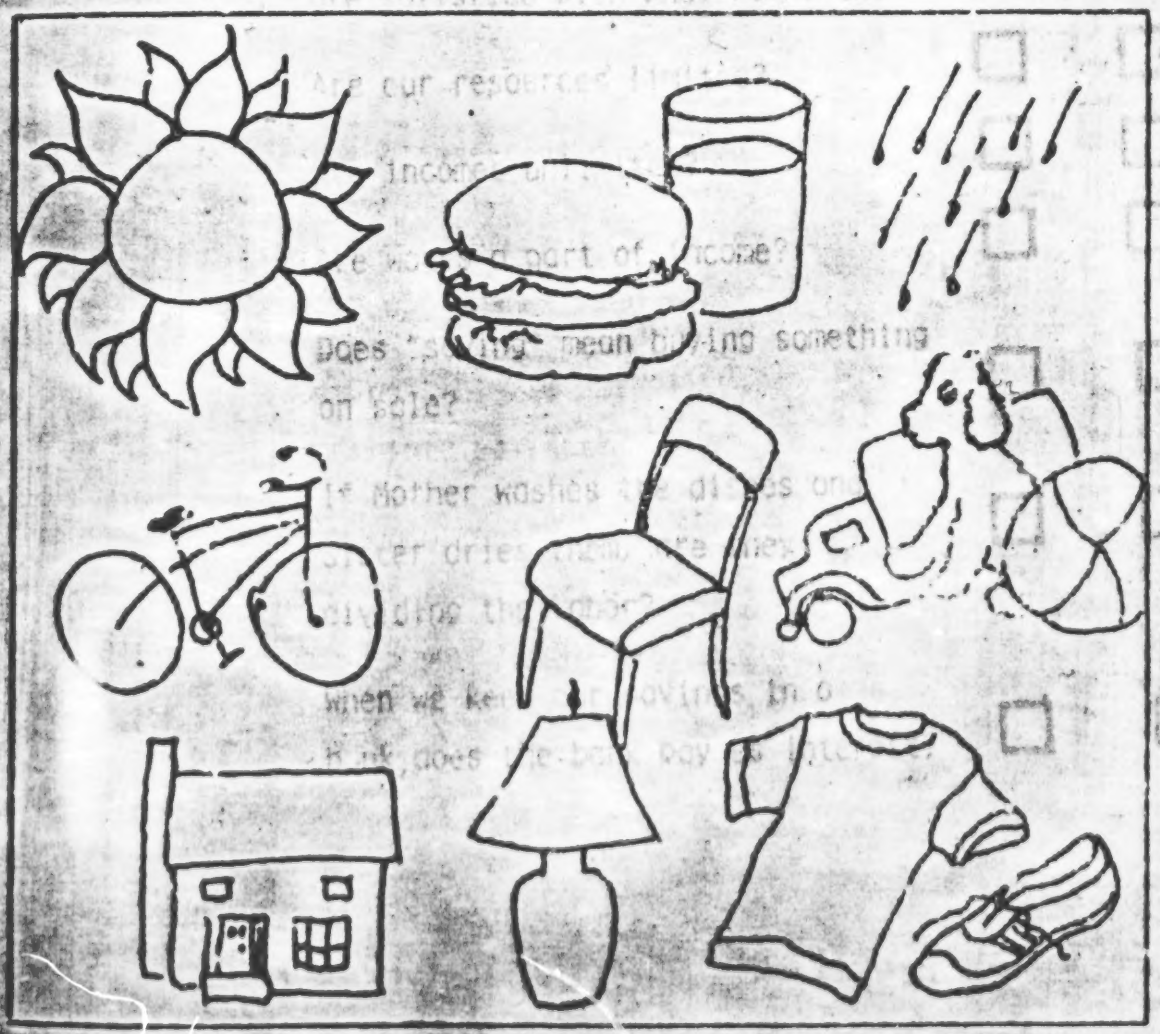


BEST COPY AVAILABLE Grade Two

Part I

Look carefully at the large box below. We are going to mark some of the pictures in this box. Listen carefully.

Put an X on the free goods in this picture.
Draw a circle around each economic good.
Draw a box around the basic needs.



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Part II

Listen carefully to the question. If you think the answer is "yes", put an X in the "yes" box; if you think the answer is "no", put an X in the "no" box.

	Yes	No
Is it true that scarcity means not having enough of a good?	☐	☐
Does "unlimited wants" mean that we are satisfied with what we have?	☐	☐
Are our resources limited?	☐	☐
Are incomes unlimited?	☐	☐
Are wages a part of income?	☐	☐
Does "saving" mean buying something on sale?	☐	☐
If Mother washes the dishes and Sister dries them, are they dividing the labor?	☐	☐
When we keep our savings in a bank, does the bank pay us interest?	☐	☐

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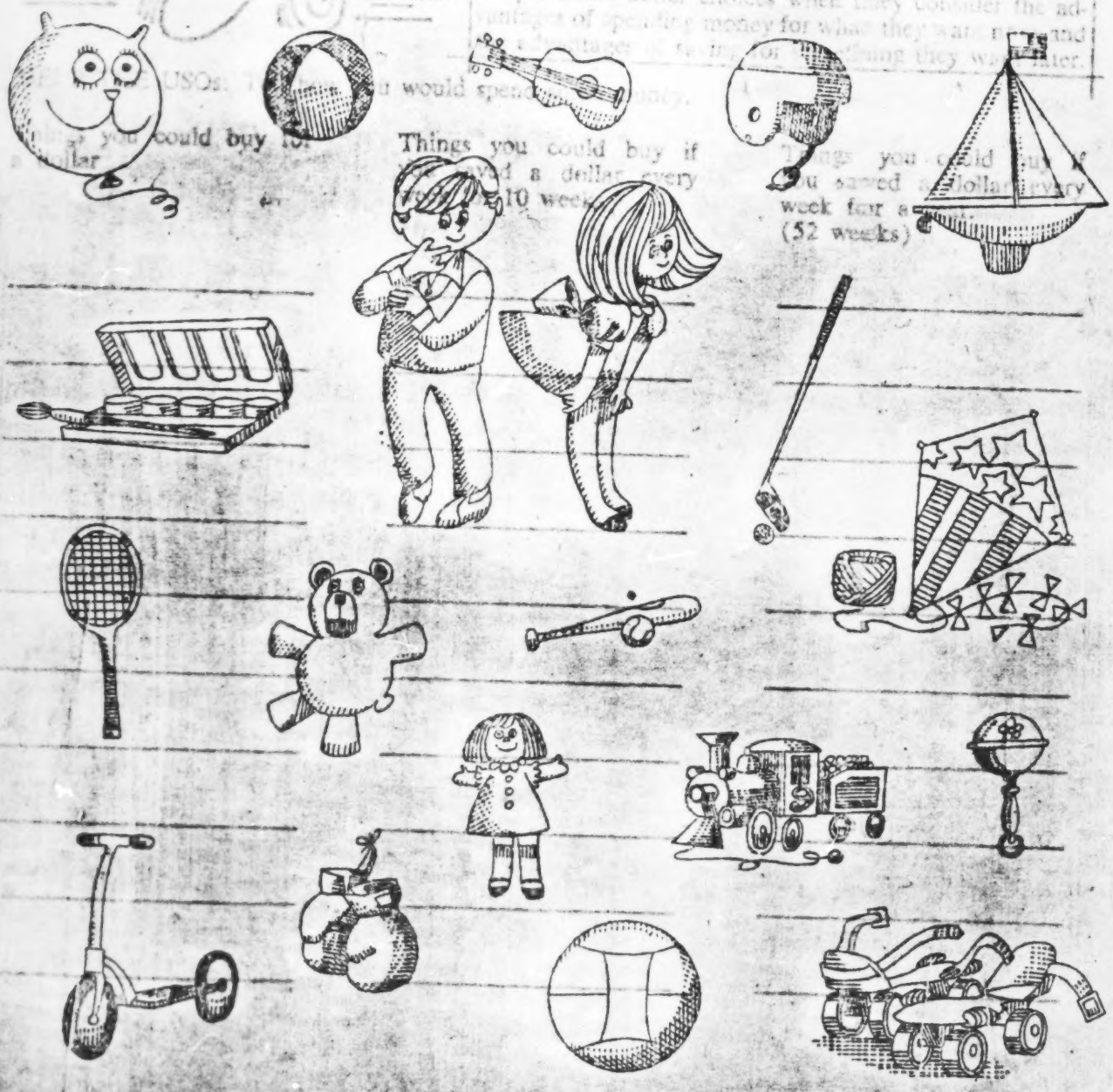
EVERYDAY ECONOMICS © 1967, R. & N.

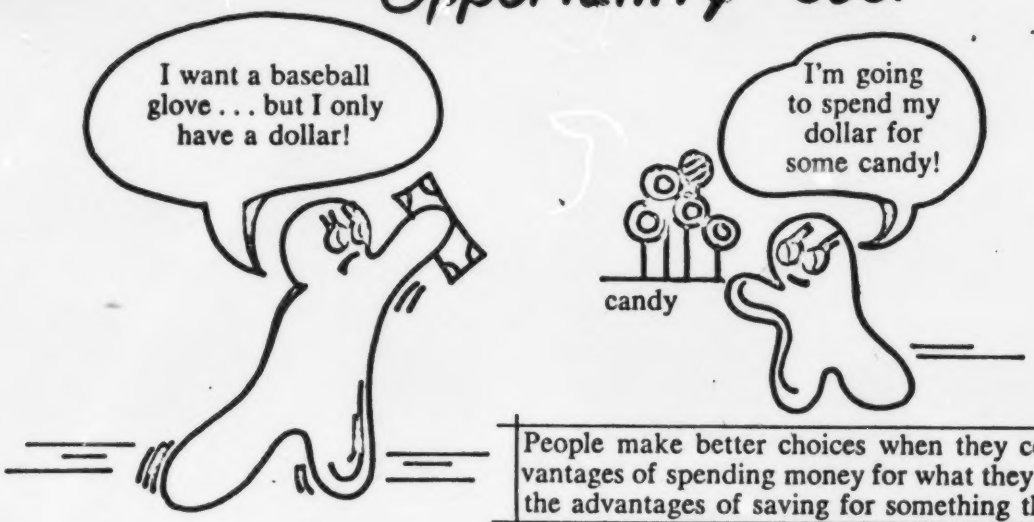
name _____

Can you buy everything you want?
When you cannot buy everything you want, you must choose.
Here are Jimmy and Susie in the toy store.
Draw a line from Jimmy to the toy he chooses.
Draw a line from Susie to the toy she chooses.
Draw a circle around the toy you would choose for yourself. (Choose just one toy).



II.10

Opportunity Cost



People make better choices when they consider the advantages of spending money for what they want now, and the advantages of saving for something they want later.

HELP THE USOs: Tell how you would spend some money.

Things you could buy for a dollar	Things you could buy if you saved a dollar every week for 10 weeks	Things you could buy if you saved a dollar every week for a year. (52 weeks)

41.

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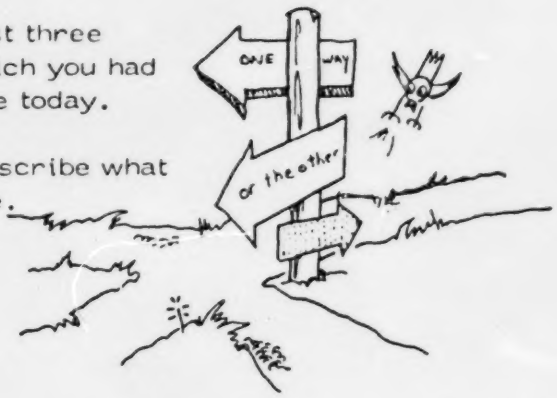
 name_____

Different families like different foods.
Draw a picture of some of the foods your family likes.
(If you want, you may draw a picture of some food your family doesn't like on the other side of this page.)

DECISIONS, DECISIONS!

In Column 1, list three situations in which you had to make a choice today.

In Column 2, describe what choice you made.



In Column 3, give the reason for your choice.

In Column 4, tell whether you think you made the right choice or not. Explain why.

situation	choice made	reason	evaluation
1	2	3	4

Think ahead to a decision you may need to make tomorrow. Write a paragraph about how you think you can best handle the decision.

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NEEDS	WANTS

Fish with me.
Write the words on the fish in either the want or the need box.

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Needs are things we must have to survive. They are food, shelter, and clothing. Think about it.

Why do you need food?

Why do you need shelter?

Why do you need clothing?

Wants are things we would like to have, but are not necessary to live. We have unlimited wants.

Make three wishes

Write them down here.

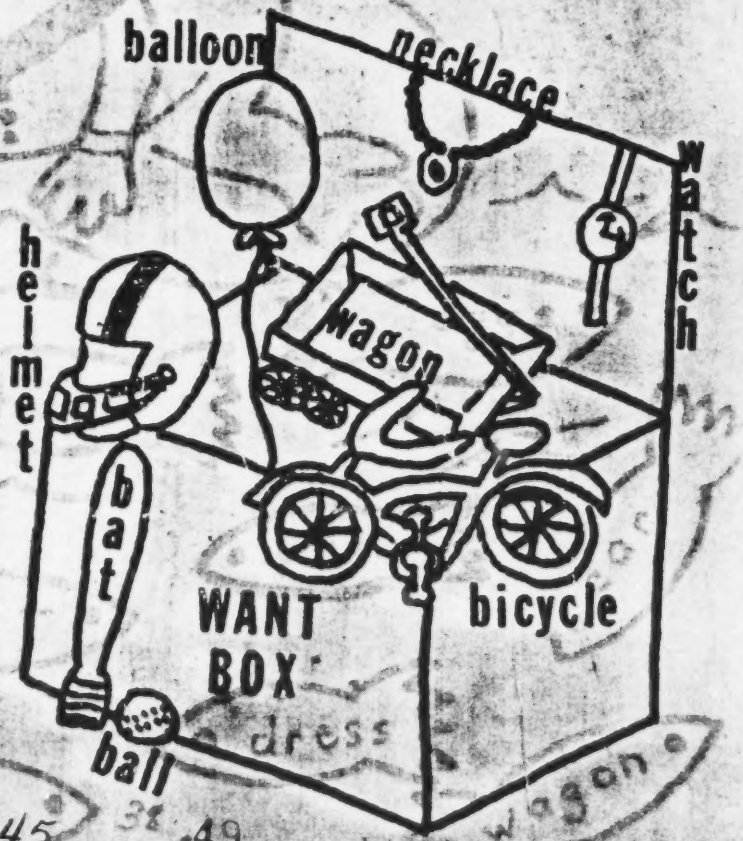
_____

_____

_____

Tell a friend your wishes.

Are they wants or needs. Why?



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DECISIONS ... DECISIONS

DECISION MAKING

Teacher Objective: To discover the types of consumer decisions your students are making.....what their feelings are about "wants" and "needs". Then utilize data as a basis for insight and planning teaching strategies for the study of Consumer Decision Making!

Student Objective: To recognize various decisions that one makes as a consumer and to decide whether these decisions are "wants" or "needs".

Directions for Students: ☑ Check below in the boxes provided decisions that you have made or will be making.

W or N Then place a "W" for an item that you think would be a "want" and "N" for items that you think are "needs".

- ☐ ___ 1. Records & Tapes
- ☐ ___ 2. Gifts
- ☐ ___ 3. Cosmetics
- ☐ ___ 4. Bicycle
- ☐ ___ 5. Entertainment
- ☐ ___ 6. Movies/Play, etc.
- ☐ ___ 7. Sport Events
- ☐ ___ 8. Sports
- ☐ ___ 9. Clothing
- ☐ ___10. Jewelry
- ☐ ___11. Snack Foods
- ☐ ___12. Car
- ☐ ___13. Car Repairs
- ☐ ___14. Uniforms
- ☐ ___15. Sports Equipment
- ☐ ___16. Hobby Items
- ☐ ___17. Motorcycle
- ☐ ___18. Furnishings for room
- ☐ ___19. Tape recorders
- ☐ ___20. Calulators
- ☐ ___21. Stereo
- ☐ ___22. Pet Items
- ☐ ___23. Musical Instruments
- ☐ ___24. Books
- ☐ ___25. Magazines
- ☐ ___26. Grooming Items
- ☐ ___27. Camping Equipment
- ☐ ___28. Bus Fare/Other Trnsportation
- ☐ ___29. Paying household bills
- ☐ ___30. School related items for study

Goods and Services

One way to get the things you want and need is to buy them with money. Objects you choose to buy are called *goods*.

HELP THE USOs: Make a list of goods that you often choose to buy with money.

Goods and Services

Yes. People spend money for *services*. Services are things people do for others.

HELP THE USOs: Tell them about some services people perform in order to earn money.

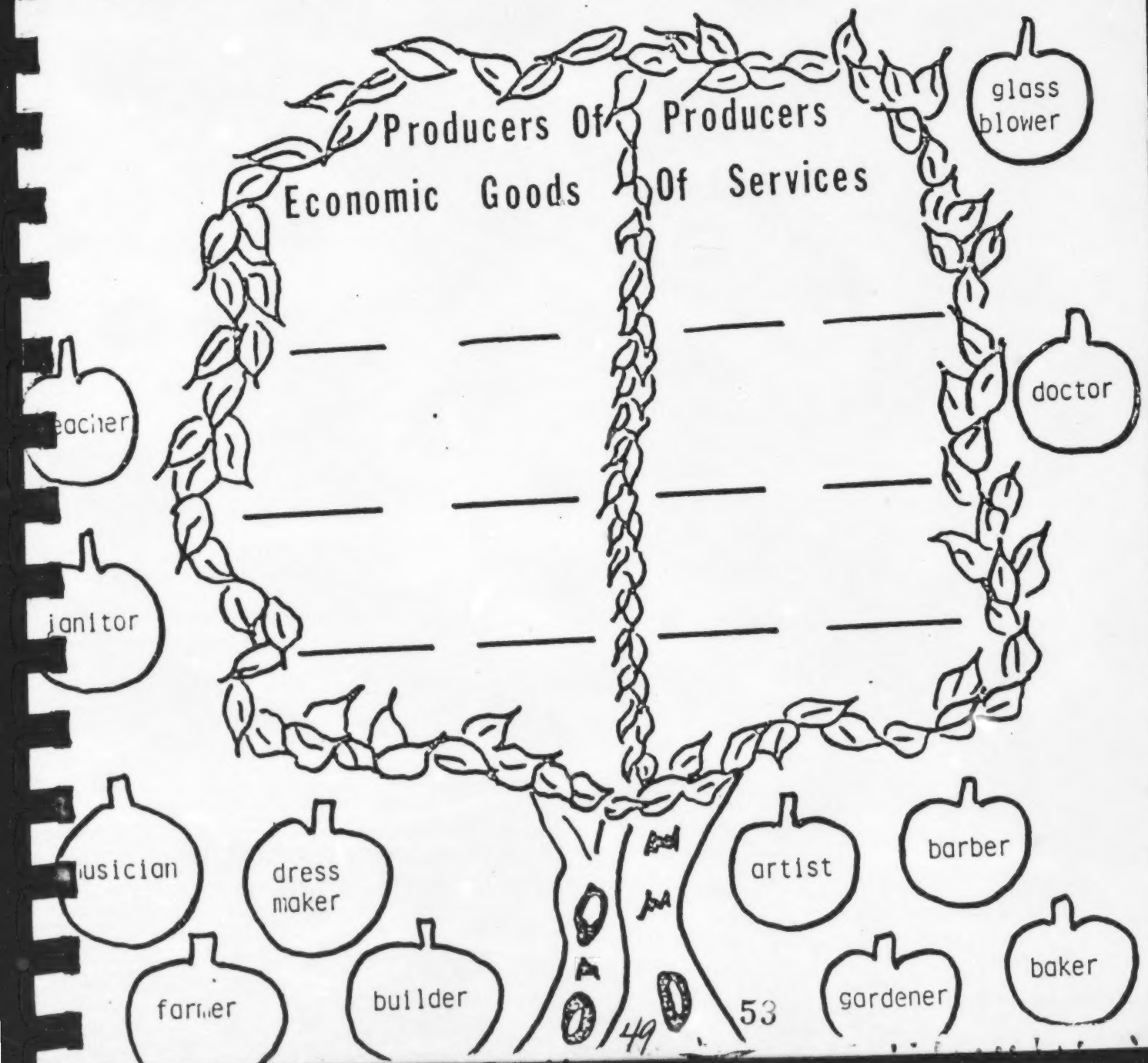
HELP THE USOs: Tell them about some services people buy.

Some people are producers of economic goods, things that can be bought or sold.

Other people who perform a task for you are producers of a service.

The apples have fallen from the tree.

Please cut them out and glue them back on the tree under the correct heading.



onomic goods are those
hat are produced and sold.
e exchange money for economic
oods. There are many of these
oods in your house. Can you
ame two?

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John

READING VOCABULARY

DIRECTIONS: PUT AN X IN THE BOX NEXT TO THE WORD THAT MEANS ABOUT THE SAME AS THE UNDERLINED WORD.

1. TO PRODUCE A GOOD
   - A. MARKET ☐
   - B. PROFIT ☐
   - C. MANUFACTURE ☒
   - D. MONEY ☐

2. THE PRICE OF A GOOD
   - A. SALARY ☐
   - B. SUPPLY ☐
   - C. COST ☒
   - D. WEALTH ☐

3. TO IMPOSE A TARIFF
   - A. TRADE ☐
   - B. SUPPLY ☐
   - C. TAX ☒
   - D. MARKET ☐

NAME _____

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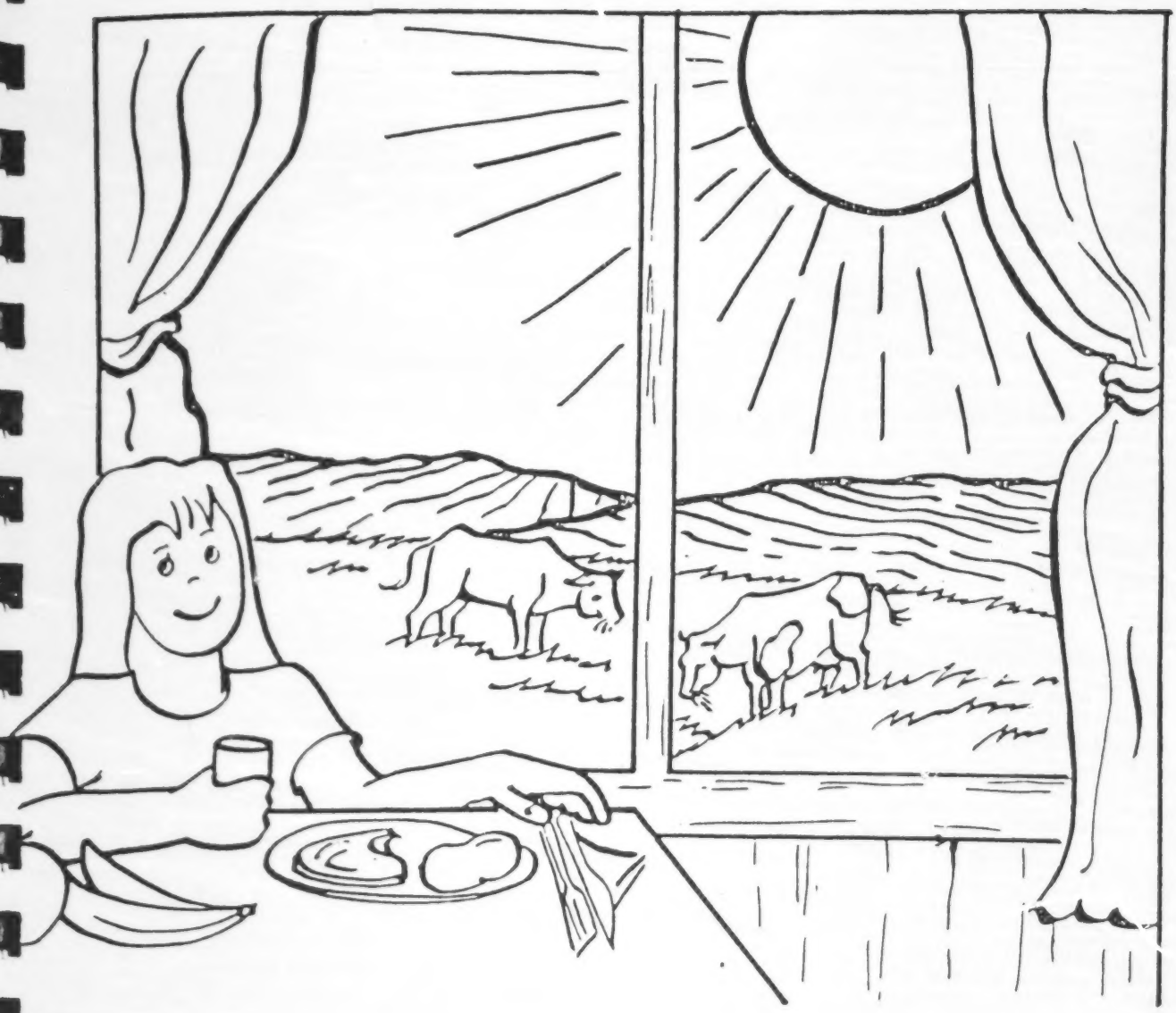
Tell how many syllables are in these Economic terms:

1. services 3
2. consumer 3
3. goods 1
4. producer 3
5. cost 1
6. resources 3
7. earn 1
8. needs 1
9. demand 2
10. money 2
11. decision 3
12. worker 2
13. survey 2
14. economics 4
15. profit 2
16. labor 2
17. market 2
18. wages 2
19. supply 2
20. scarcity 3
21. capital 3
22. opportunity 5
23. food 2
24. clothing 2
25. shelter 2
26. wants 2
27. salary 3
28. trade 1

Name Mary 1

Glossary of Terms has been removed because it is copyrighted.

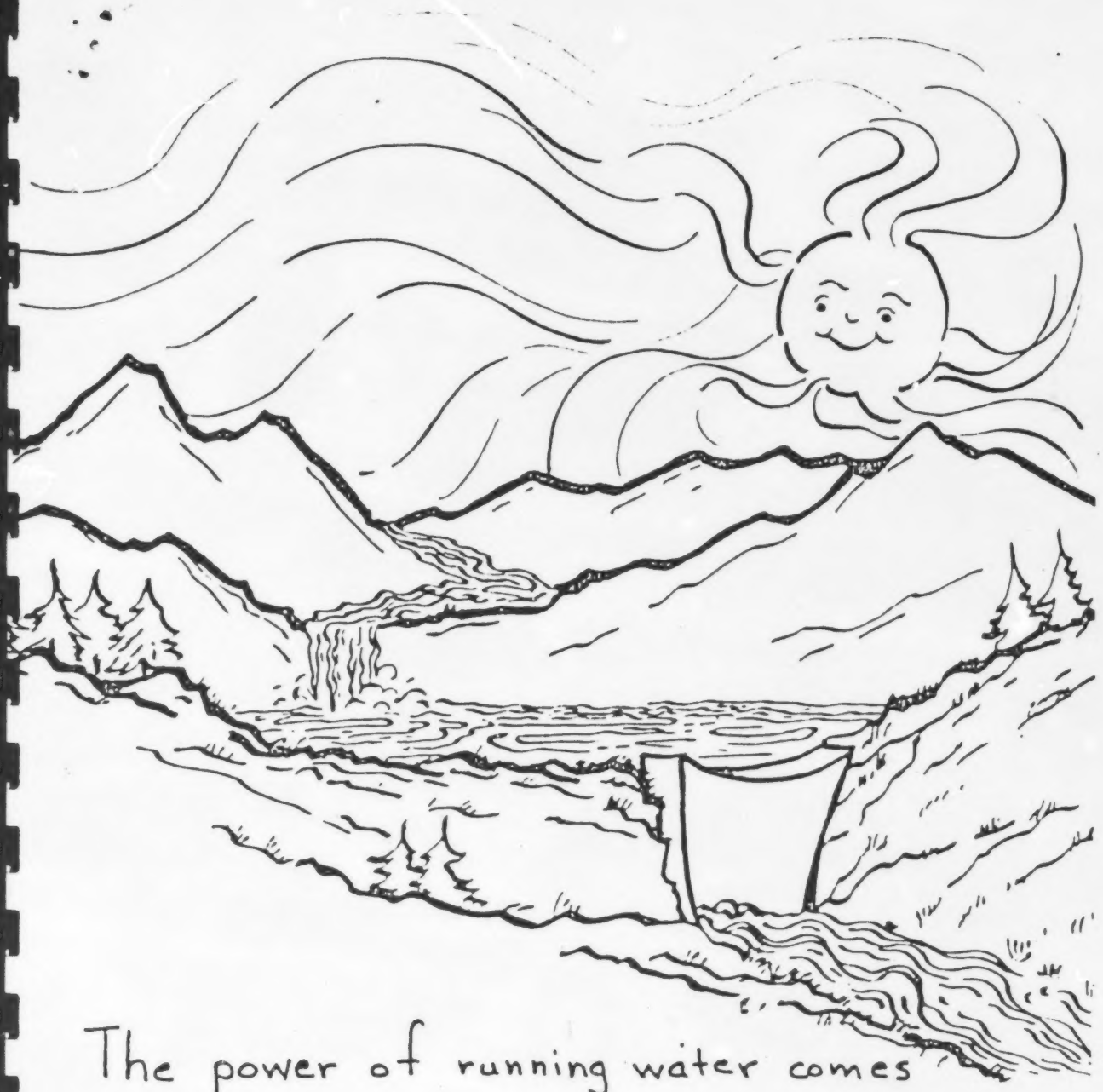


Plants use sunlight to make their food.
By eating plants and other animals,
people use the energy from the sun.

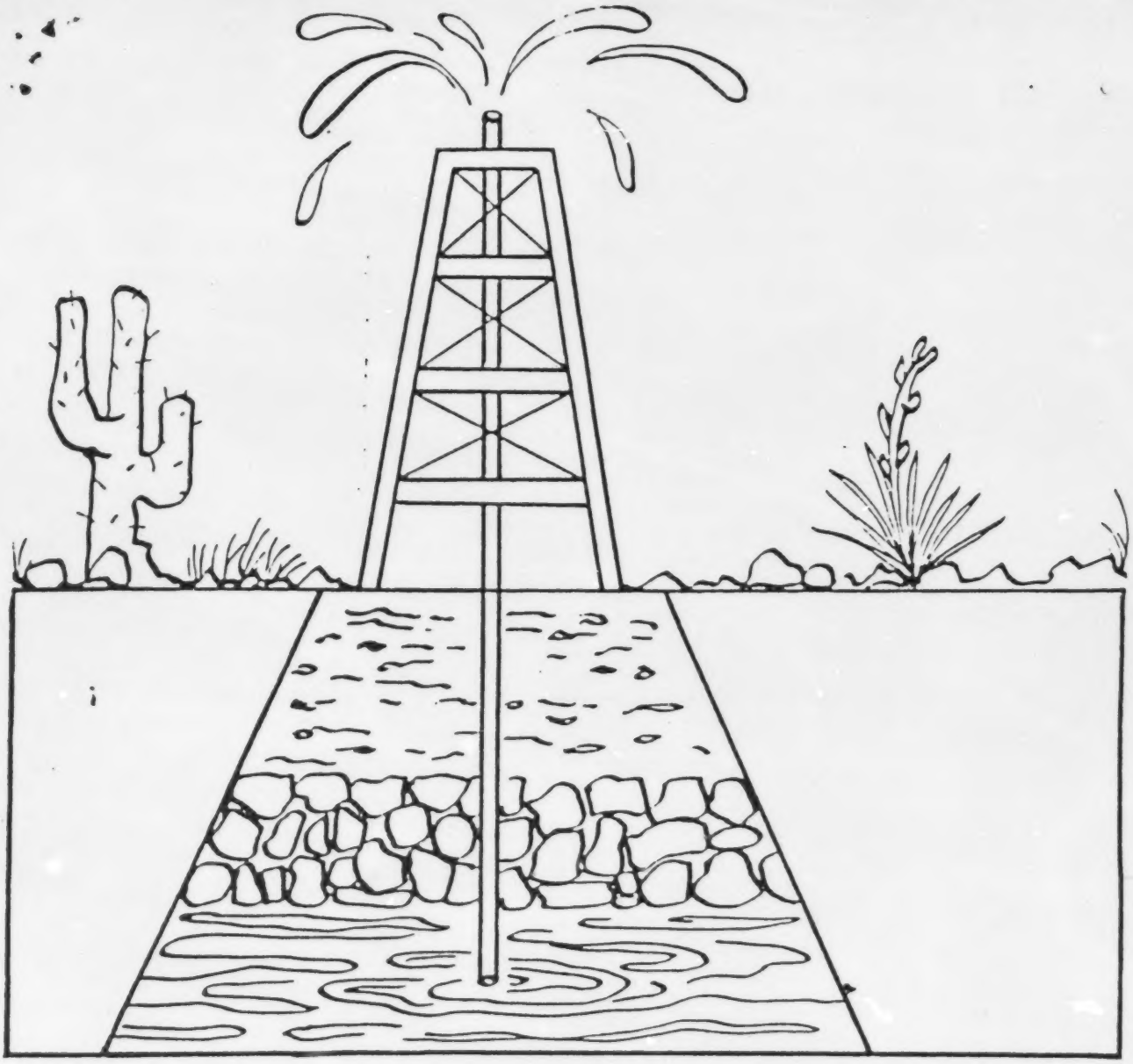
Wind Power

The sun heats the earth. Hot air rises causing wind currents. These air currents cause most of the winds on Earth.

Color me strong.

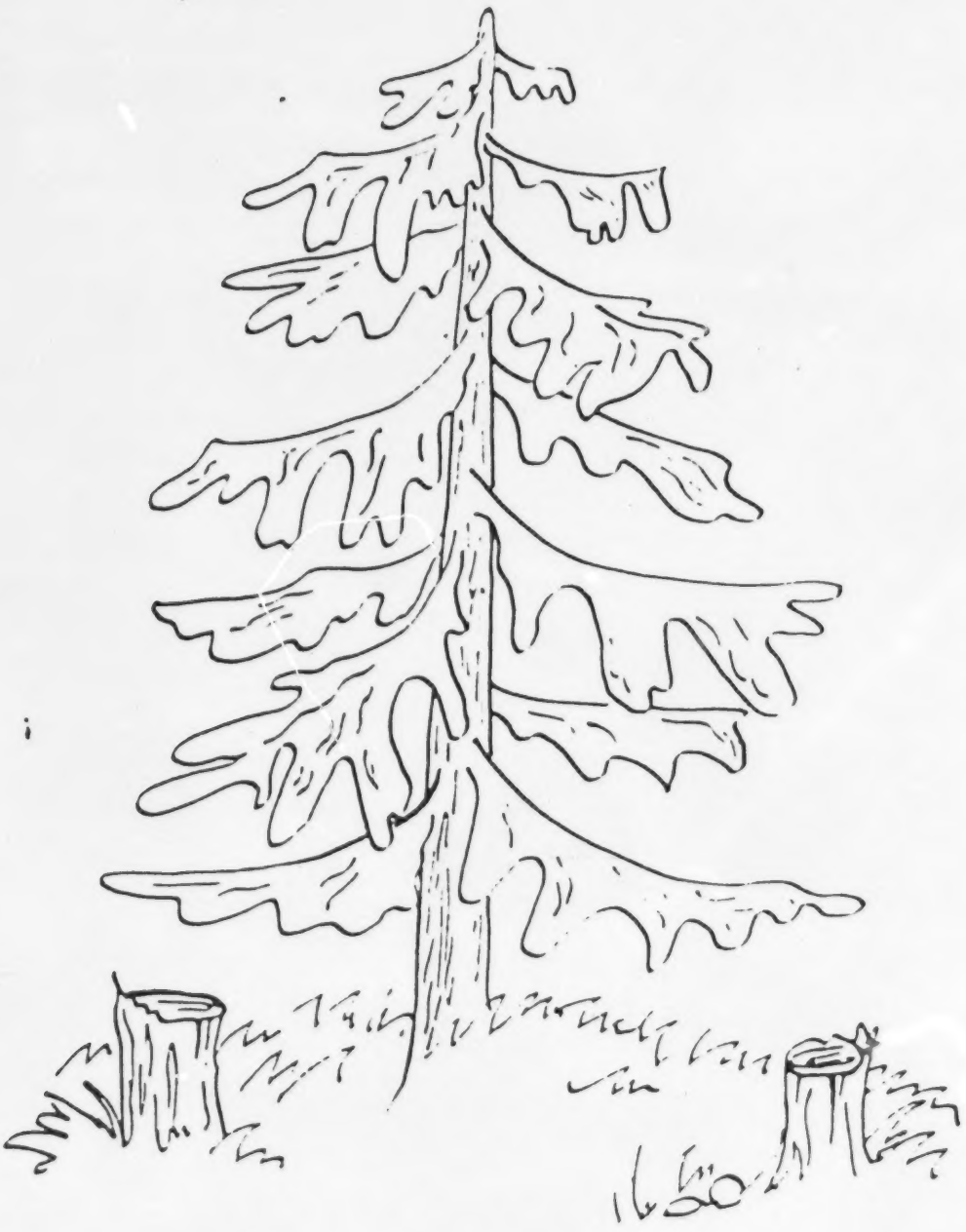


The power of running water comes from the sun. The sun evaporates water from the ocean and wind carries the water vapor over the land. When the water falls as rain or snow it flows into streams. Color me cool.



Oil was formed from small plants and animals that grew in the sunshine millions of years ago. When we use it, we are releasing the heat energy that was stored there millions of years ago.

Color me dark.



As a tree grows it stores energy in its trunk and branches. When we burn the wood we release heat energy that was stored as it grew. Color me alive →